

# BY JACKSON NEWS

Registered U.S.A. Patent Office

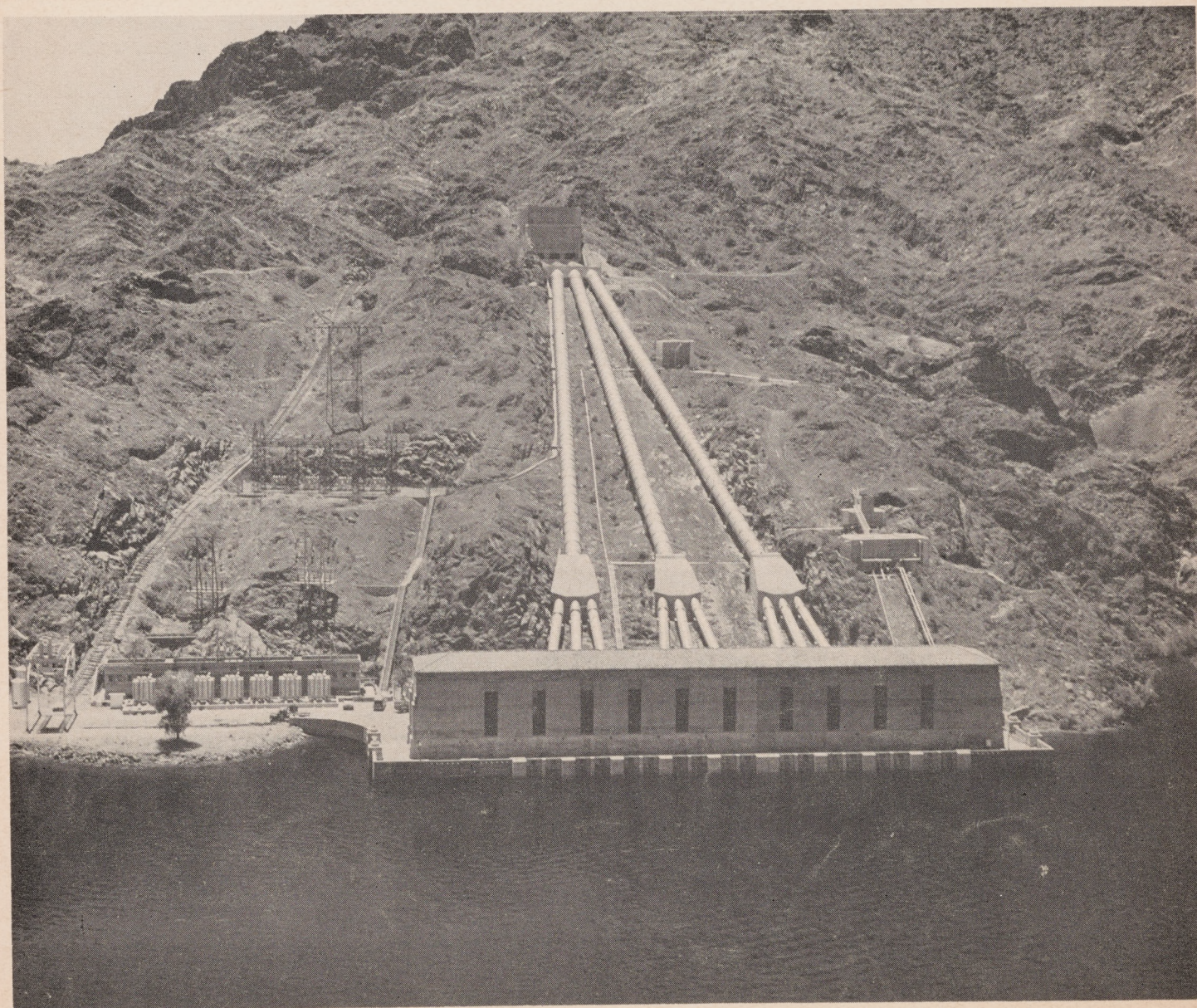
Vol. 19, No. 5

BYRON JACKSON DIVISION, BORG-WARNER CORP., P.O. Box 2017, Terminal Annex, Los Angeles, Calif.

May, 1960

## COLORADO RIVER AQUEDUCT COMPLETED

Dedication May 11th, 1960  
TO THE SERVICE OF THE PEOPLE



TODAY'S REPLACEMENT COST—ONE BILLION DOLLARS

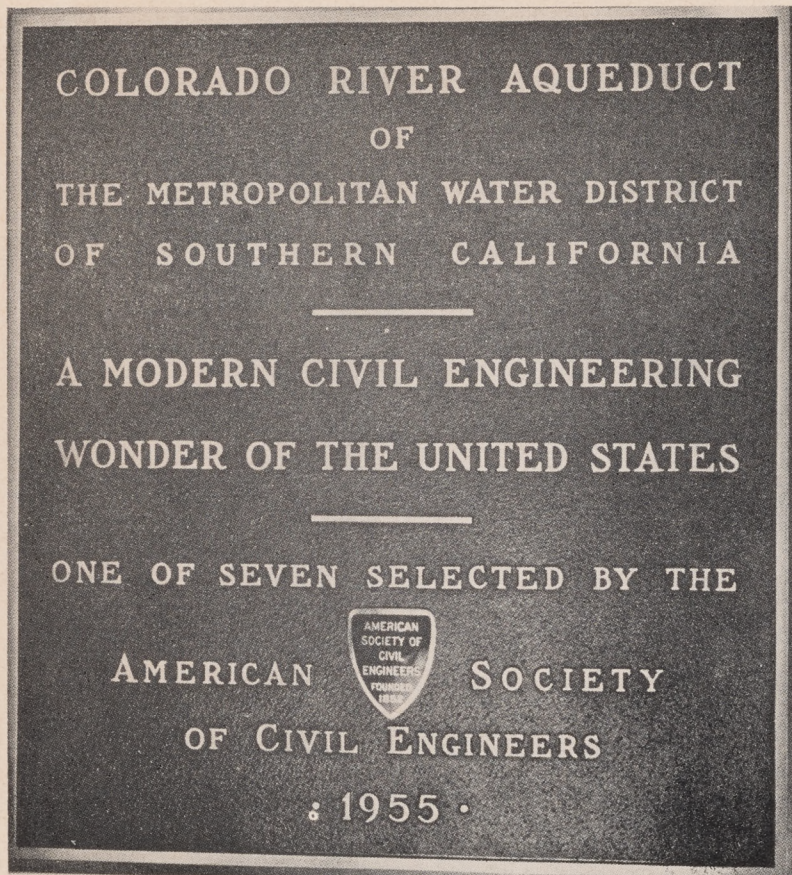
Above—WHITSETT INTAKE PUMPING PLANT, located on Lake Havasu, Colorado River. This station includes nine Byron Jackson pumps, each designed to deliver 90,000 gallons of water per minute at 291 feet TDH, with each pump driven by a 9,000 horsepower electric motor. Each pump discharges its water through a six foot diameter line and thence to a ten foot diameter line extending up the hill to the surge chamber shown. Nine additional Byron Jackson pumps, each 9,000 HP, are installed in the GENE BOOSTER STATION, located just over the hill in the above picture. The eighteen Byron Jackson pumps require a total of 162,000 horsepower.

COLOR

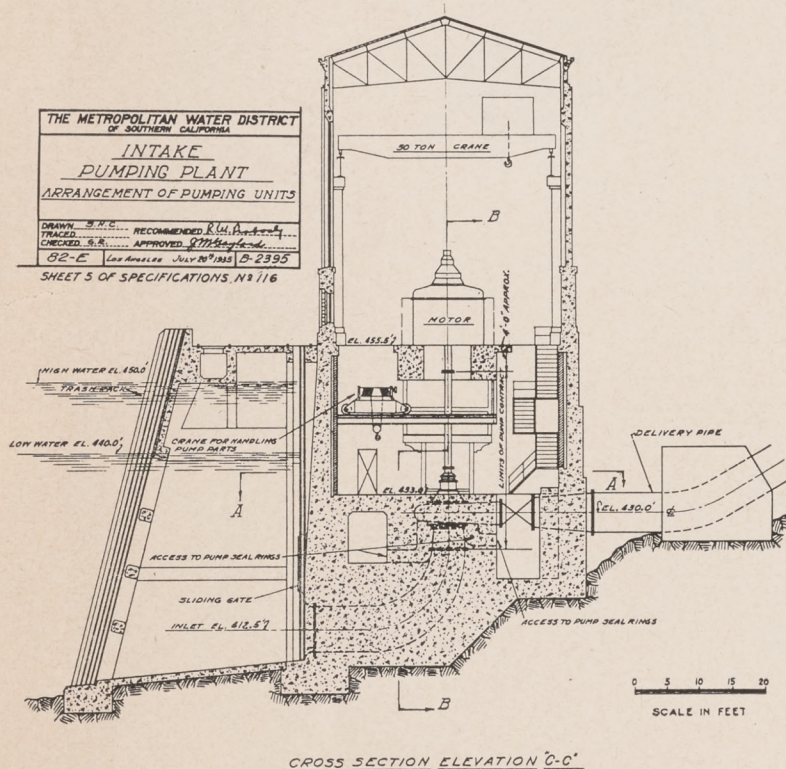
(SEE PAGE TWO)



# World's Largest Aqueduct System



The American Society of Civil Engineers in 1955 found the Colorado River Aqueduct of The Metropolitan Water District of Southern California to be one of the seven engineering wonders of the United States. Above is the wording of a bronze plaque presented to the District by the Society.



Typical cross section of each of the eighteen Byron Jackson pumps. Nine units are located in the INTAKE PLANT and nine more at the GENE BOOSTER STATION.

## FOREWORD

Where there is life — there must be water.

Life cannot exist without water. Therefore, wherever life is found, there also must be found water. The sad consequence is that people down through the ages have come to take water for granted. "Here is life—here also is water." So, what is there to be concerned about. In most temperate climates with a generous rainfall, the people up until recent years have been able to escape the penalties of this unsound logic. In the arid regions of the world, Man can never escape from the problem of providing adequate water supplies by his own efforts and his own planning and his ability to look into the future.

Southern California is a section of the Earth where more people have come to live, and work and play, in a region far removed from adequate water supplies than has been true in any region at any time in recorded history. The Babylonians, the Carthaginians and the Romans built great aqueduct systems for the importation of water to their cities. In the light of engineering and construction developments as of their ages, the works they built and operated remain as wonders of the world. But these people traveled relatively short distances to their water sources. Here in Southern California we are bringing water from outside sources through aqueducts 300 miles long. Even now we are looking to new water sources in Northern California more than 500 miles distant.

EDITORS NOTE: See realistic article—Page 16 of March 1948 BYJAC NEWS.

The longest and the largest domestic water supply line thus far planned, constructed and placed successfully in operation is the Colorado River Aqueduct of The Metropolitan Water District of Southern California. Early in 1960 this great Aqueduct was brought to its full delivery capacity of one billion gallons of water a day. It is a fitting time to look back over the years and briefly review a few of the highlights in the planning, building and operation, thus far, of the Colorado River Aqueduct.

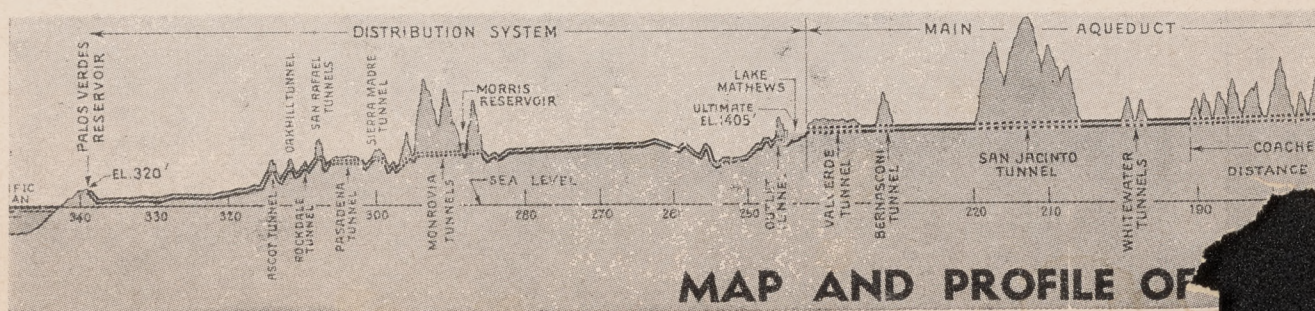
What of the source of this Colorado River water supply? Briefly let us examine some of the amazing phases of the Colorado River which make it one of the most mysterious and vitally important water supply sources of any river system in America.

The Colorado River is one of the major rivers of the United States and the largest river in the Southwest. Its main stream flows for 1,700 miles within the United States and 50 miles in Mexico where it empties into the Gulf of California. With its tributaries, it flows through or forms the boundaries of seven states of the Union, namely, Colorado, Utah, Wyoming, New Mexico, Arizona, Nevada and California.

Largest of the tributaries of the Colorado River is the Green River which flows through Wyoming, Colorado, and Utah. Another principal tributary is the San Juan, which drains mountain slopes and plateaus in Colorado and New Mexico. And in the upper reaches of the river's system there are the Gunnison, the Yampa, Little Colorado, the White, Duchesne, Price, and San Rafael rivers. Below the Grand Canyon, the Virgin River joins the Colorado, and still further to the south are Williams and Gila rivers.

One-twelfth the Land Area of U.S.

The basin of the Colorado River covers one-twelfth of the entire land area of continental United States. It has a total of 252,000 square miles, with 250,000 square miles within the United States and 2,000 square miles within the Republic of Mexico.

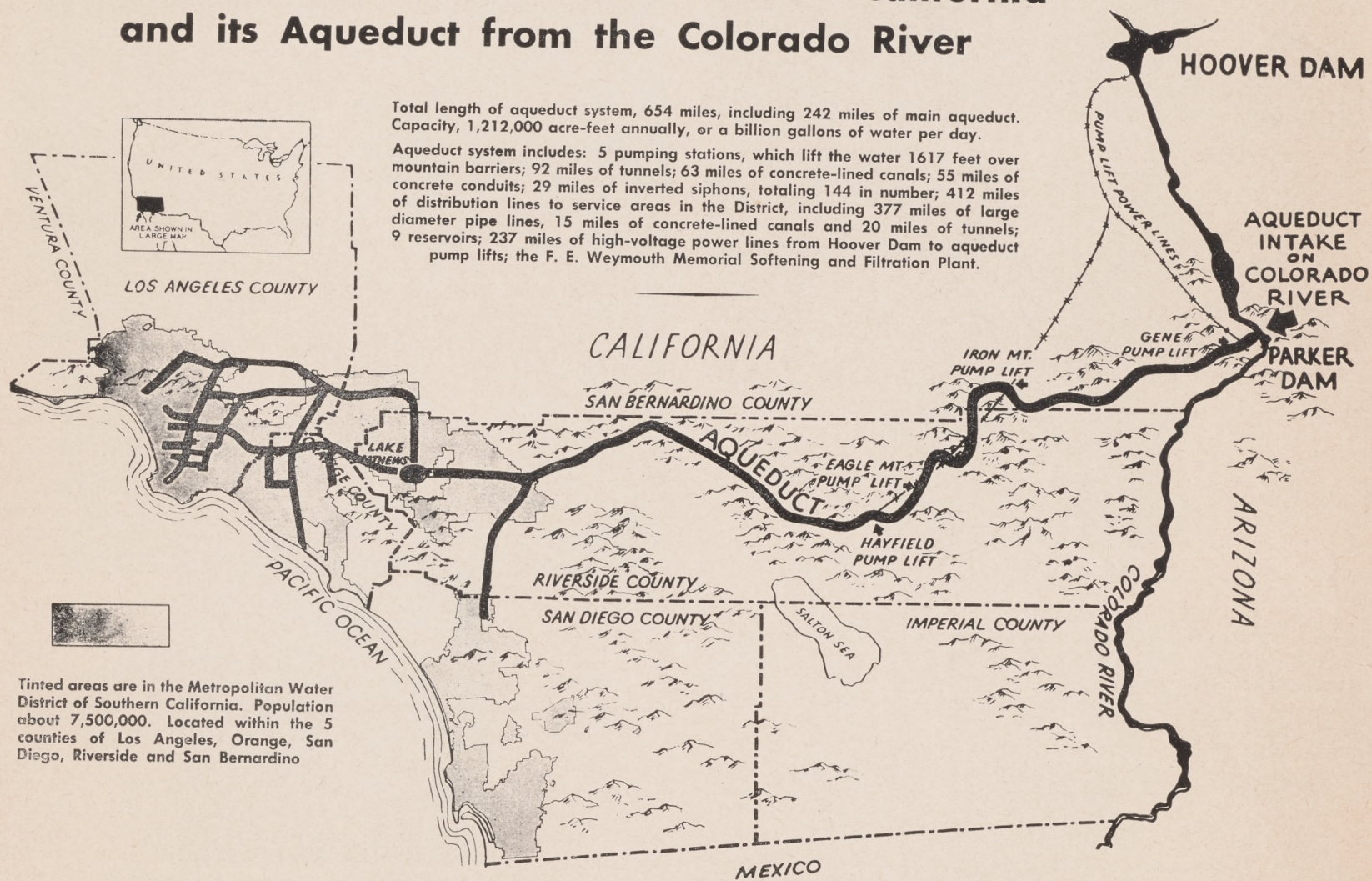


MAP AND PROFILE OF

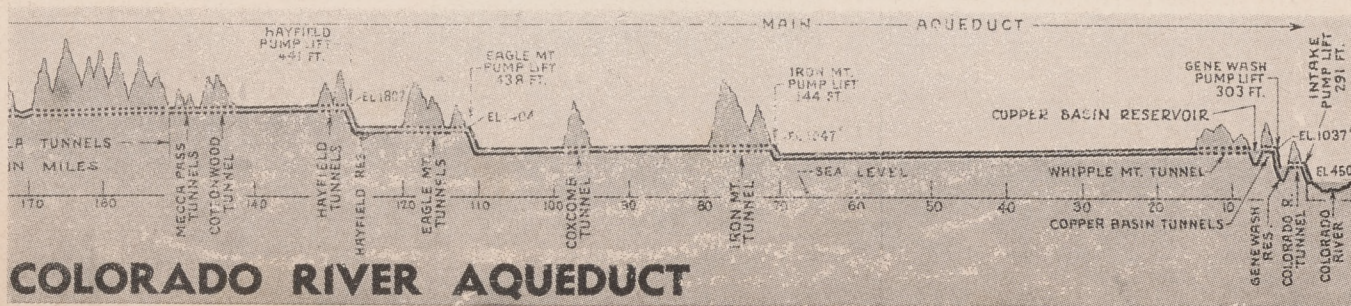


# WATER FOR 7,000,000 PERSONS

## Metropolitan Water District of Southern California and its Aqueduct from the Colorado River



**AQUEDUCT DEDICATION - MAY 11, 1960**





# The Amazing Colorado River



Frank E. Weymouth



Julian Hinds



Robert B. Diemer

The river rises in the snowcapped western slopes of the Rocky Mountains. In these lofty mountain areas there are hundreds of peaks reaching up more than 13,000 feet, and many exceeding 14,000 feet in elevation. After rushing down the slopes of countless mountain ridges, the river enters a series of deep canyons. It travels a good part of its length in gorges and chasms cut hundreds and sometimes thousands of feet below the adjacent mesas and plateaus. Most famous of these canyons is the spectacular Grand Canyon of the Colorado. Here the river has carved out a channel more than a mile deep. Guide books of world travelers list it as one of the great wonders of the world.

In the lower 200 miles of its length the river passes down through relatively flat mesas and valleys. It is the only river with tributaries entirely within the United States which travels for the greater part of its course through desert country.

## Water Giant of Southwest

Prior to the construction of Hoover Dam (See Page 18, March 1958 BYJAC NEWS) the Colorado River for uncounted centuries had been roaring down the mountain canyons and across desert plateaus of the Southwest, a mad water giant that destroyed with its annual floods all of Man's works that chanced to be in its wayward path. In the quantity of water it carries in various seasons of the year, it is one of the most variable in America. Before its waters were harnessed by Hoover Dam the quantity of water in the lower river varied from devastating floods running as high as 200,000 cubic feet per second to a mere trickle in the late summer and early fall.

In 1905, flood waters of the Colorado River broke through the levees in Imperial Valley in California and inundated hundreds of thousands of acres of fertile land. The flood waters broke away from the river channel and flowed back inland to form the Salton Sea. It was possible for this to occur for the reason that Imperial Valley is below sea level, some parts as much as 250 feet.

After the flood of 1905, efforts were made to obtain authority from Congress to construct a dam on the lower Colorado River that would control and conserve the flood waters for beneficial use.

(Continued on Page 22)

## Ken Stoddard Passes



Kenneth J. Stoddard

On Page Three of May 1956, BYJAC NEWS included the following story:

"New Location of Superintendent Ken Stoddard's Office — "ULTRA DELUXE PENTHOUSE OF BJ'S PLANT THREE."

The new offices for Ken Stoddard, Plant Three Superintendent, were complete and moved

into on Monday, April 30th. They are located in Plant III above the tool crib.



Ken Stoddard

A definite show place which is really "THE LATEST" in modern lighting, air conditioning and SOUND PROOFING, with a bird's eye view of the entire Plant.

The decor is a deep cream color, trimmed in a warm pink;

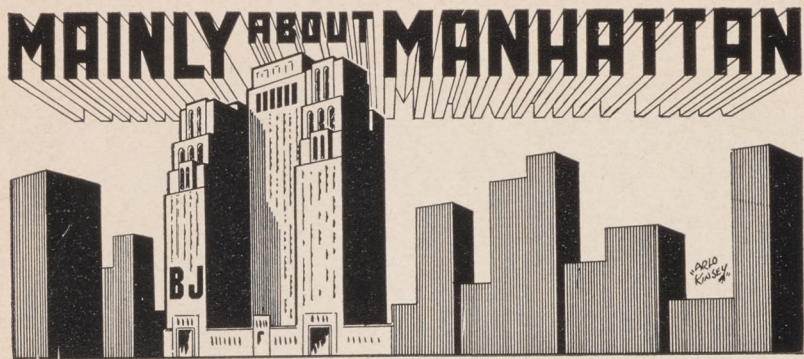
(Continued on Page 19)



## SERVICE AWARDS FOR MAY ANNIVERSARIES

	Length of Service	Effective Date
ALLEY, LEE JOE—Vernon	5	5-16-55
BLAISDELL, IRENE—Vernon	15	5-21-45
BONNER, JOHN W.—New York	10	5-16-50
FEATHER, ALBERT—Philadelphia	5	5-11-55
HITT, GEORGE—Vernon	20	5-17-40
IMHOFF, HELENE—Vernon	5	5-23-55
KLAUS, CHARLES—Vernon	20	5-17-40
MARRUJO, FERNANDO—Vernon	10	5-01-50
CASTANEDA, ROY P.—Vernon	5	5-18-55
LAZZARI, ANGELO—Vernon	10	5-16-50
MURGA, HECTOR—Vernon	10	5-04-50
QUIJADA, DIONISIO J.—Vernon	10	5-18-50
ROONEY, NORMAN L.—Vernon	5	5-11-55
SPECHT, ERWIN J.—Vernon	5	5-10-55
WELLS, GORDON P.—Vernon	20	5-14-40
HARRIS, SIDNEY—Tulsa	5	5-16-55
EDINGTON, CURTIS—Lawrenceburg	25	5-17-35
SACKETT, FOREST H.—Lawrenceburg	5	5-03-55
HIGHTOWER, SPENCER—Houston	5	5-11-55
CAROTHERS, GEORGE—P. B.	5	5-10-55





## The Long Island Water Conference Celebrates its Tenth Anniversary



In recognition of its ten years' work in safeguarding and protecting Long Island's ground water supply, Byron Jackson Pumps, Inc. presented the accompanying "Salute" picture to the Long Island Water Conference at its last meeting, February 29, 1960. The picture was presented by John F. Ryan (right) Byron Jackson's New York District Manager and was accepted by John Trask (left) V. P. of the Conference and Superinten-

dent of the Plainview Water District.

The Conference, whose members include personnel of the various water districts and companies on Long Island, work together to provide residents of this area with a pure and adequate water supply.

At the first meeting of the Conference ten years ago, there were only thirteen members. The rolls now show over 150.



## Salute to the Long Island Water Conference on its Tenth Anniversary

Today's life-giving water is not the instant servant it seems. Conference members . . . the men, personnel of Water Districts and Companies, Consulting Engineers, Contractors and Manufacturers, provide Long Island with its most precious commodity . . . WATER. These men hold our water future in their hands. Help and support them in this vital work and join with us in this salute to them and their Conference.

### BYRON JACKSON PUMPS

INCORPORATED

A Subsidiary of Borg-Warner Corporation • P.O. Box 70, Lawrenceburg, Indiana

The BJ Submersible shown here combines motor and pump in one powerful package that quietly works out of sight and sound. It is one of the modern answers to water supply pumping.



Note: Above is reproduction from Byron Jackson advertise-

ment in Long Island, New York, newspapers.

## Congratulations, Hector

Born in Guaymas, Sonora, Hector Murga decided — very early — that Los Angeles was his favorite city — and for the past ten years — Byron Jackson has been his favorite company.

Hector has been doing an outstanding job on BJ's Plant Two Turrets; and very proudly received his ten year service emblem; officially earned on May 4, 1960.



Hector Murga, right, receives ten year BJ Service Pin from Foreman J. W. Bacon.

With his lovely wife Lupe, Hector is mighty proud of their family, including son Ernesto and daughters Norma, Beatriz and Eleanor.

Hector enjoys a unique position with his BJ pals, developed over the years with consistent application and splendid effectiveness. All of his associates look forward, with real pleasure, to even closer comradeship with Hector and his family during the coming years; and with many more Byron Jackson service emblems to be awarded.

Juvenile delinquency began to sprout when the woodshed became obsolete and it took another big spurt when safety razors began to replace the old type.

"It isn't possible for anything mechanical or electrical to be smarter than a human being," says an electronics calculator technician. Oh, yes, it is. A television set that decides to take a vacation can easily outwit all the TV repairmen in town.

Pity the good, who die young and lose the money they pay into the Social Security fund.



## Mid-Continent News

**"POWER PAYS OFF"**  
still! Recently, Jim Deaton, BJ Sales Representative at Pampa, Texas was invited by Mr. Bob Horton, Drilling Superintendent for Moran Bros. to present a program at their April 11th Tool-pushers meeting, held in Perryton, Texas. Consequently, Jim and W. F. Roberts, BJ District Manager, showed our BJ color-sound film "POWER PAYS OFF," and led a discussion covering BJ factory repairs.

Perryton Chamber of Commerce offered their building for this meeting, which was well attended by Moran Bros. toolpushers, Mr. Bob Horton, and Moran's Safety Director.

All BJites will be pleased to know that Jean Manning, wife of Bob Manning, BJ Sales representative at Great Bend, Kansas, has come through surgery with flying colors. This is third major surgery for Jean, so the Mannings are hoping that "Third time is the Charm."



The accompanying photograph shows Mid Continent Regional Manager, Wm. C. Brooks, presenting to Jack Gray his 5-year service award.

Jack was delighted with this recognition and expressed the hope that he would receive many more service awards in the years to come.

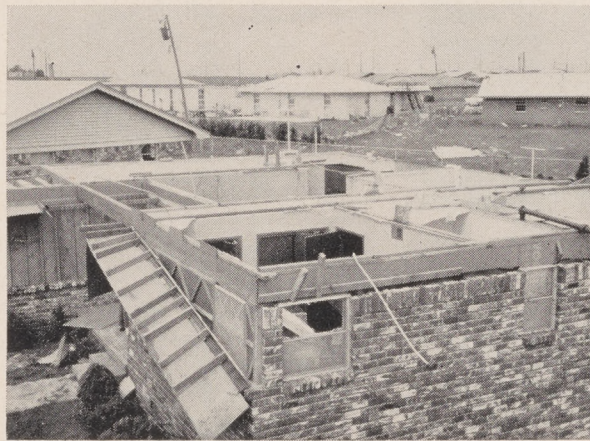
Jack has spent practically his entire time with Byron Jackson in West Texas and has just recently been moved into the Fort Worth-Dallas area as city salesman, working out of the Fort Worth office.

Congratulations, Jack; we, too, hope you receive many similar awards in the years to come.

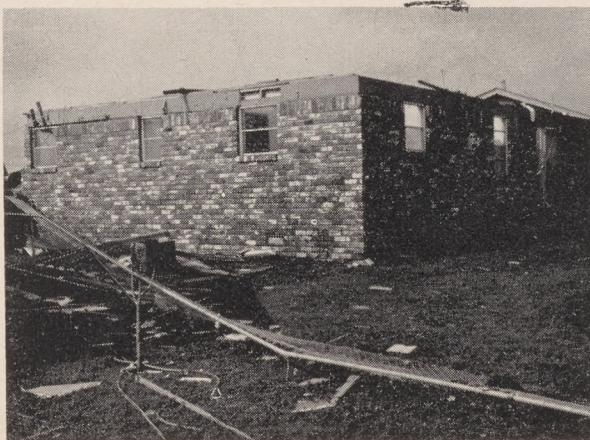
Congratulations — Mr. and Mrs. Will Roberts upon the advent of a fine 7 lb. son who arrived around 3 a.m. of May 3rd. PRESTON CHAD Roberts is the dignified name selected for this newest and fifth child of the Roberts clan. However, the proud father has advised that the name has already been shortened to "Chad." Roberts, District Manager of District 43; and Betty; a native of California are real anxious for their kin and friends from the Prune Pickin' country to see their Okie-born son! The SOONER—the quicker!

Dear Mrs. Tarpley:

The accompanying pictures show some of the damages that occurred as the result of a tornado that struck the southwestern part of Oklahoma City at 8:55 p.m. on Thursday evening, April 28, 1960.



Roof shot of the house next door. Occupants were a man, wife, and 18 mo. baby. And THEY WERE UNHURT. They found shelter under a maple bed in southeast bedroom. Note house directly behind telephone pole is "TORNADO PROOF" cement job—but sustained \$11,000 damages.



The house next door — This one is a total loss at \$14,000.



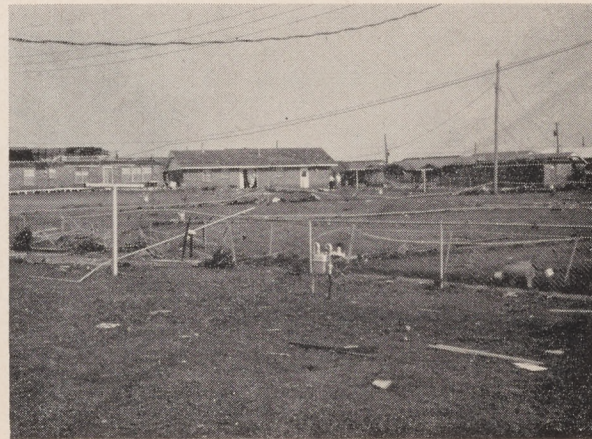
This is Dick Lynch's house — damage isn't too great; \$3,000 to \$4,000.

We had no advance warning because the local Weather Bureau was put out of operation by 100 MPH winds while the actual tornado was forming.

Heaviest damage was in an area one and one-half miles wide and 4 miles long. Between 15,000 and 20,000 buildings were damaged at the present



This is our company car #126 and the DARK OBJECT sticking completely through the corner of the door glass is another composition roofing shingle. Damage to car is \$200.



This is just across our back fence. All three houses are TOTAL LOSSES.



estimate of \$3,000,000. Approximately 70 persons were injured but none critically and no deaths were reported. Our section of the city has been declared a "Catastrophe Area" by the National Board of Underwriters.

We were inconvenienced some without gas for a short time, and the electricity was off 48 hours, and we were without phone service for 72 hours but the actual damage wasn't too extensive. Really, *you just can't be much more fortunate than we were.*

If anyone wants to know what we were doing, just tell them "ducking."

Sincerely,

DICK LYNCH

Congratulations to Jack Carter on his appointment April 15th as District Sales Manager, District 41 with headquarters in Odessa. All of Jack's friends and associates, both in and out of the company, wish him success in his new assignment. All of us who know and have worked with Jack, are certain he will be a success and will go on to bigger and better things in our company in the years to come.

We are glad to have Jack Gray handling Dallas and Fort Worth City sales. Jack has taken hold very nicely; and we know the contacts he will make in Fort Worth-Dallas area will be beneficial to the sale of BJ Oil Tools, both in the Domestic and Export field.

We wish Jack lots of success and future progress with our organization.

#### WELCOME VISITORS—

To Ft. Worth during the month were Messrs. R. T. Marcus, V. C. "Bud" Horner, Operations Manager, Jet Process; Al Hamby and John Schultz, all here on BJ company business.

Another mission brought Mr. and Mrs. H. A. Koop (Order Department, L.A.) to Texas on vacation to visit their son, Earl Koop and family, who are residents here. Both Hal and Mrs. Koop admit their two main reasons for driving from California to Texas are their grandsons, Donald 12, and Doug, 7.

The worst tornadic storms on record—a group of 60 occurring Feb. 19, 1884—took the largest toll on record: 800 lives. The greatest property loss was re-



ERNEST F. HOLLINGS  
GOVERNOR

#### STATE OF SOUTH CAROLINA

EXECUTIVE DEPARTMENT  
HAMPTON OFFICE BUILDING  
COLUMBIA

Dear "Shorty":

The high light at the Convention was meeting you and playing our golf round together. You and your golf are both dynamic!

Please call on me whenever you are in Columbia.

With personal regards.

Sincerely,

Mr. W. D. Taulman  
W. D. Taulman & Associates  
415 East Paces Ferry Road  
Atlanta, Georgia

Recently, while attending the annual meeting of the Southeastern Electric Exchange at Boca Raton Hotel & Club, Boca Raton, Florida, "Shorty" Taulman won the DRIVING CONTEST—with a 300-yard drive!! Mr. Taulman acquired the cognomen "SHORTY" . . . because . . . and on account of . . . ALWAYS BEING A SHORT KNOCKER.

Shorty's partner—on the historic occasion—was none other than THE HONORABLE ERNEST F. HOLLINGS, Governor of The State of South Carolina. On the 19th hole—WE ALL KNOW what Shorty said to the Governor of South Carolina!

W. D. Taulman & Associates have represented Byron Jackson Pumps, Inc., in the southeast—most successfully—for a long time. The firm specializes in expert service to large power plants, requiring high pressure Byron

corded June 7-9, 1953, with damages of \$93,230,840 suffered in Michigan, Ohio, and the New England states.

Jackson Boiler Feed Pumps, and other highly specialized pumping units.

Mr. Taulman's business has been growing very rapidly as a result of the tremendous increase in industrial activities throughout the entire southeastern portion of the U.S.A.

Again . . . CONGRATULATIONS . . . Shorty . . . from your host of Byron Jackson friends . . . for your winning 300-yard drive—and especially for the pleasure realized in what you were privileged to say—on the 19th HOLE—to your very good friend—The Governor of South Carolina!

Candidates usually begin their political campaigns on a high level, but few of them are able to stand the altitude for an appreciable length of time.

\* \* \*

It is easier to get along with a person who freely admits he has many faults than with one who believes he's virtually perfect.

\* \* \*

My, how tempus does fugit! Whatever became of Charles Van Doren?

## 20 Years For LET GEORGE DO IT



Right, with that famous smile, George Ploessel happily receives 20 year service emblem from Ted Arthur.

Joining Byron Jackson on April 11, 1940, George Ploessel has had a wide experience in various jobs from production assignments to his present very effective activities in charge of keeping everyone up-to-date with our voluminous Byron Jackson Pumps, Inc., PRICE BOOK.

George also helps a great deal in working with our Advertising Department, because of his familiarity with literally thousands of "pieces of paper" that accurately describe an ever increasing variety of highly specialized BJ pumps.

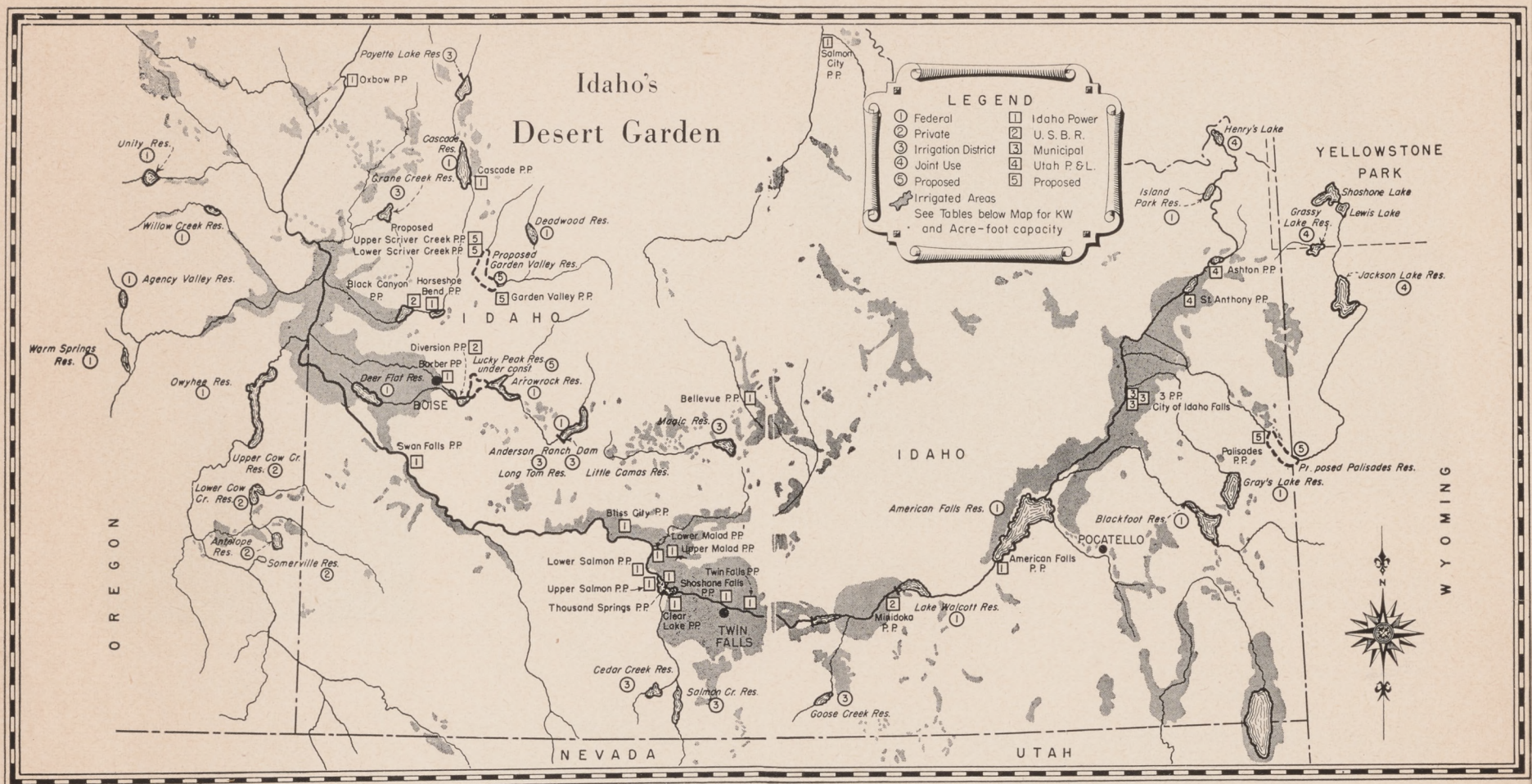
George's career with BJ reminds us of the story of the man who had been employed by one firm for ten years. After all those years, he decided to resign, so he applied to the IRISH SUPERINTENDENT for his severance papers. The "Super" gave him rather a scathing look . . . and said: "I knew dom well that ye wouldn't be a steady mon th' verry furrst day ye came here."

Well, George has completely qualified now as a "STEADY BJ MAN" . . . and award of his 20-year Byron Jackson service pin is recognition of a splendid job—always well done.

Congratulations, George Ploessel, from all of your BJ pals. We earnestly trust that you are just beginning your SECOND string of another interesting 20 years!



# Now Everybody Likes The Snake



By O. A. Fitzgerald

BJites and other travelers who motor over the old Oregon Trail highway, U.S. 30, this summer, will encounter constant reminders that Idaho is about to jump into centennial celebrating in a big way. This year marks the 100th birthday of the state's first permanent white settlement; in 1963 will come the 100th territory-state birthday. Increasingly Idaho will be reviewing her agricultural and industrial accomplishments.

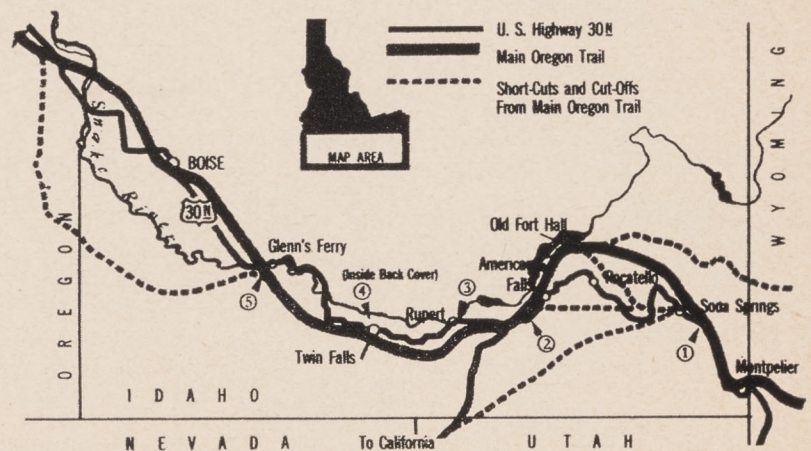
But the real hero in this centennial—or, for that matter, any other Idaho celebration—won't be a settlement or town. It will be a river—the mighty Snake—which starts in Yellowstone National Park and makes a half-moon swing through southern Idaho before joining the Columbia in Washington.

You need not be much of a historian to realize that *until the age of irrigation* the Snake was as disliked as any river could be. Among the French-Canadian trappers it was known as the "Mad River." Its wild descent from Yellowstone, through deep canyons and down falls higher than Niagara, and its general unfriendliness to man contributed to that designation. Some of the first white men to visit the river—blessed with a better developed sense of humor than most—tagged it "Paul Bunyan's Big Ditch." Only Paul, they reasoned, could create such a masterpiece. It was the Indians who named it the Snake, probably because it weaves and twists like a giant reptile.

Although a few kind words were uttered about the Snake until modern times, this stream and its tributaries have given Idaho one of the *world's most productive and fascinating agricultural empires*. The centennial years naturally will be a time for parading the story of the *third largest and one of the fastest growing irrigation systems in the nation*.

When the pioneers were putting together Idaho's first permanent settlement, at Franklin on U.S. 91 just north of the Utah border, unkind words were flowing as steadily as the Snake itself. Wagon wheels rolled hub-deep in dust and got stuck in sand, giving rise to the bitter comment in one journal that this was country "*as worthless as the Sahara*."

People were thirsty in sight of water. Travelers today thrill at the views into the depths of the Snake River gorge, but it was a different matter to folks of the covered wagon days who looked down hun-



dreds of feet to water they couldn't reach. Prayers of thanksgiving were offered as the wagons rolled off the frightening Snake River plain into the friendly green of what is now Oregon.

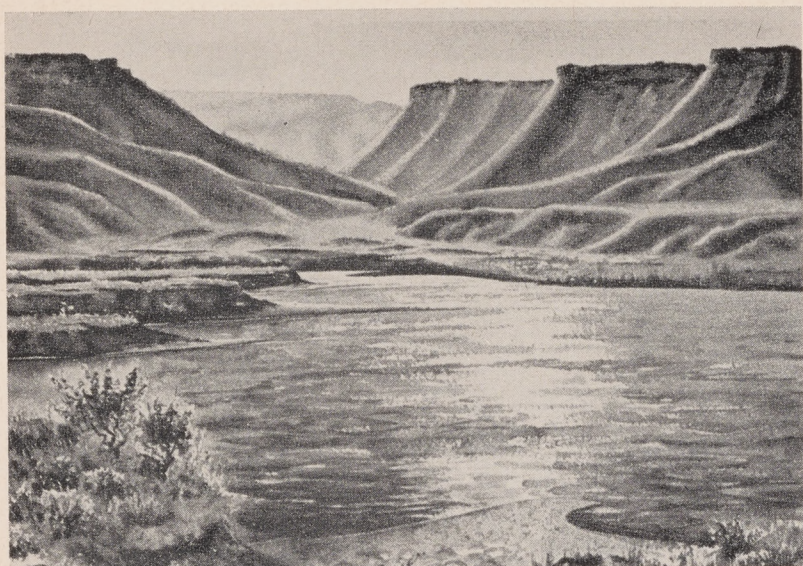
This forbidding land came in for some highly literary analysis by Washington Irving. Here's how the *Great American Desert* impressed him:

"It is a land where no man permanently resides; a vast, uninhabited solitude, with precipitous cliffs and yawning ravines, looking like the ruins of a world; vast desert tracts that *must ever defy cultivation* and interpose dreary and thirsty wilds between the habitations of man."

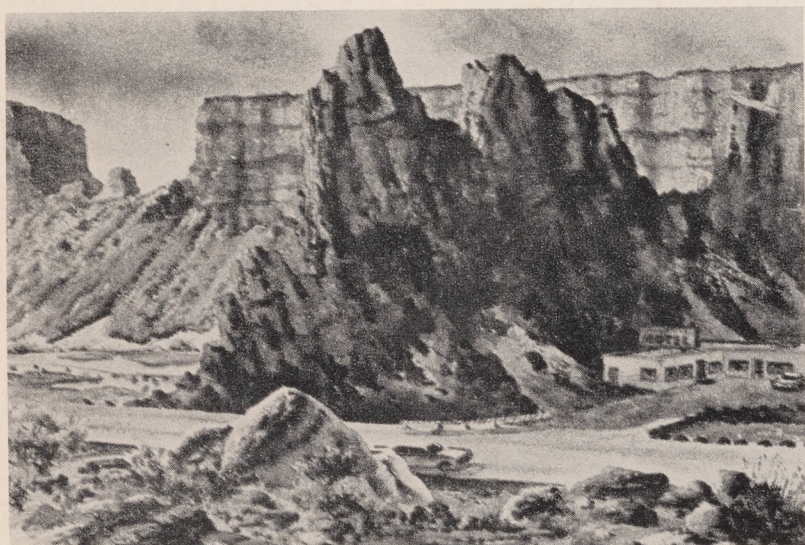
Dramatic reading, yes, but hardly an accurate prophesy. As Idaho observes her centennials, the country that was once described as worthless is now praised with words such as "*Magic Valley*" and "*Treasure Valley*." And truly magical is the transition that has taken place in the area around Twin Falls. The evidence is seen mile after mile across some of the *nation's highest producing farm land*. The Boise-Caldwell-Nampa triangle in the western part of the state is the heart of "*Treasure Valley*." From this section comes a substantial share of the *vegetable seeds* that are planted in home gardens throughout the United States.



# Potatoes - Potatoes - Potatoes



Three-Island Ford was an important location on the Oregon Trail where west-bound wagon trains usually crossed the Snake.



This is MASSACRE ROCKS, the site on the bank of the Snake River where Shoshones ambushed an immigrant wagon train in 1862.

"Potatoes"

Potatoes, however are Idaho's big-name product, and centennial travelers will see, at a spot almost within stone's throw of where the covered wagons rolled, the shape of things to come. The processing of potatoes is becoming a giant business and Idaho is fast becoming the nation's giant in processed potatoes—chips, French fries, instant mashed, and patties. To keep the big new processing plant supplied, the largest potato storage warehouses the world has ever seen are being built. At one such operation, near Burley on U.S. 30, enough potatoes can be stored to fill twenty-two trains of a hundred cars each.

On the day men began building dams and creating reservoirs to divert water from Paul Bunyan's big ditch to the thirsty land, the Snake stepped into its new role as a friendly river. Before that, jack-rabbits and rattlesnakes had enjoyed sole occupancy of the sage brush-covered plain. No one has yet stated the transformation more effectively than did the Idaho Falls business man who penned these lines:

"Little drops of water  
Spread upon the sand  
Make a lot of difference  
In the price of land."

Travelers over the Idaho section of the Old Oregon Trail this summer will learn a lesson in empire building when they realize that over a long, long time, a multitude of well-meaning people were willing to write this country off. Today, in the once forbidding,

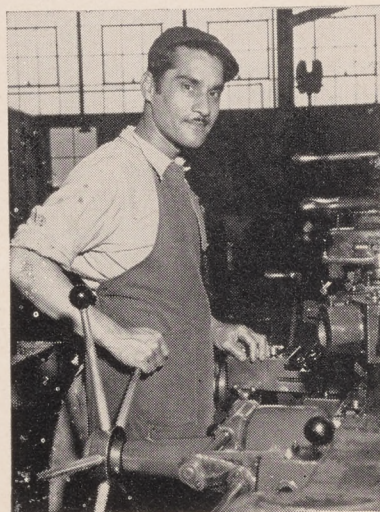


Perry Lemmon, Manager Irrigation Sales, Snake River Equipment Company, Idaho Falls, Idaho, inspecting the Jess Croft-Wylie Snarr 450 horsepower Byron Jackson Submersible water well pump. Fertile, highly productive farm acreage in the background—produces splendid crops of POTATOES—IDAHO POTATOES—WORLD FAMOUS FOR THEIR QUALITY.

unfriendly land of the mighty Snake, they see a fertile, productive farm land in addition to an awesome river.

BYJAC NEWS EDITORS' NOTE: With permission to reprint, and much appreciation, above story includes excerpts, pictures, etc., from the "FORD TIMES" of June 1960, published monthly by the Ford Motor Company at Dearborn, Michigan.

## Congratulations



Hector Murga, 10 years



Curtis Edington, 25 years



## LAWRENCEBURG NEWS

### Rosemary Banschbach Weds James Wernke Reception Follows at Greendale Cabin



At a high mass celebrated at 10:30 a.m., April 23, Miss Rosemary Banschbach, daughter of Mr. and Mrs. George Banschbach, Ludlow st., and James A. Wernke, son of Mrs. Anthony Wernke and the late Anthony Wernke of Cheviot, O., were united in marriage at St. Lawrence Church. Father Kasper performed the double-ring ceremony before the main altar, beautifully decorated by baskets of gladioli and snapdragons. Preceding the ceremony Mrs. Eugene Ortman, accompanied by Sister Michel, sang Ave Maria and On This Day O Beautiful Mother.

Mrs. Edgar Cheever of Randy ave., sister of the bride, was chosen as matron of honor, and Mrs. Joseph Kuhl, Cincinnati, another sister, served as bridesmaid. They were attired in identical blue ballerina-length taffeta gowns, with full skirts and scoop necklines, the bodices decorated with appliqued venice lace and carried dainty baskets of spring flowers.

Best man was Frank Yass, Cheviot, O., and ushers were Richard Vogelsang, Cincinnati, George Bauer, Cheviot, O., and Thomas Larbes, Delhi Hills, O.

The bride, who was given in marriage by her father, wore a long sleeved floor-length gown with chapel train of tulle. The bodice and skirt were appliqued with lace, the sabrina neckline was emphasized by seed pearls and sequins. She wore a tiara

with fingertip veil and carried a lovely crescent shape bouquet of white roses and stephanotis.

The bride's mother, who wore a light blue sheath dress, blue flowered hat, black patent leather shoes and purse, and white gloves, had a corsage of pink roses. The groom's mother selected a navy blue dress, white flowered hat, with a white purse and gloves. Her corsage was white roses.

Immediately following the ceremony, a reception was held at Greendale Cabin, where a delicious lunch was served by Miss Diane Knappek, Lawrenceburg, and Mrs. John Groh, Cheviot, O. The beautiful three tiered wedding cake was topped by miniature bride and groom figurines. During the reception organ music was played by John Britton of Lawrenceburg.

The new Mrs. Wernke graduated from Lawrenceburg High School, and prior to her marriage was employed by *Byron Jackson Division of Borg-Warner*, and the groom, who is a graduate of St. Xavier High School, is now attending University of Cincinnati Evening College. He is employed at *Byron Jackson*.

For her going away costume, Mrs. Wernke wore a navy blue suit, with a red flowered hat. Following a short honeymoon in Kentucky, Mr. and Mrs. Wernke will reside at Shady Lane, Miami Heights, O.

Out-of-town guests who attended included the bride's brothers, Mr. and Mrs. George Edward Banschbach, Seattle, Wash. and Mr. and Mrs. Charles Banschbach and family, Denver, Colo.

The accompanying photographs were made at Lawrenceburg after M. L. Murdock had presented to Jim Wernke and Rosemary Banschbach the wedding gifts from the office personnel. Jim and Rosemary were married Saturday, April 23, 1960. Jim is Chief Estimator with Lawrenceburg Sales Dept., and Rosemary was the stenographer in Lawrenceburg Engineering Dept. Rosemary retired April 14 and intends to devote all her time to being a housewife. All of us here at Lawrenceburg wish them a long and happy married life.

### Dr. Gamson Heads Byron Jackson Tools' New Product Division

Dr. B. W. Gamson has been named Vice President in charge of New Products Development for Byron Jackson Tools, Inc. Announcement of the appointment, effective May 1, was made by Robert Harcus, Executive Vice President.

Dr. Gamson moves to his new post in Los Angeles from the Roy C. Ingersoll Research Center, Borg-Warner Corporation's central research and development facility at Des Plaines, Illinois. For the past four years, Dr. Gamson has been Associate Director of this Center.

In the announcement, Mr. Harcus stated, "This appointment is additional evidence of the major emphasis Byron Jackson Tools is placing on new and better tools and techniques for oil exploration, drilling and production. Dr. Gamson has had a



Dr. B. W. Gamson

prominent part in all of the development projects we have carried on in conjunction with Borg-Warner's Research Center—including the *Nuclear Magnetism Log*. He will now be able to concentrate his full time and talents on Byron Jackson's many new oil tool programs."

A graduate of Illinois Institute of Technology, Dr. Gamson earned his master's degree at the University of Michigan and received a doctorate from the University of Wisconsin.

Doctor Gamson joined the Roy C. Ingersoll Research Center in December 1955 as Associate Director for Research; and working with Henry Haase, now President of York Division, helped to design and build the Research Center's modern facilities in Des Plaines, Illinois. He was in charge of supervising all research in chemistry, metallurgy, electronics and physics.

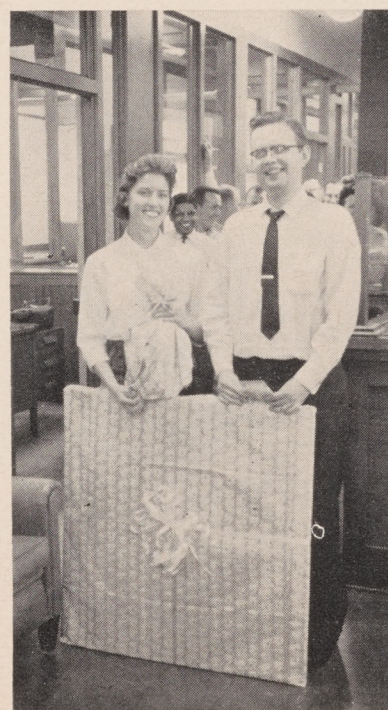
Under Dr. Gamson's direction, programs were initiated in the fields of Nuclear Magnetism Logging, Polymer Chemistry, Friction Materials, Thermoelectricity, Solid State and Static Inverter Devices, Transducers, Space Vehicle Propulsion, AEC heat exchangers, Air Sanitation, etc.

Prior to joining Borg-Warner Corporation, Dr. Gamson was Manager of Fuel Development for the Triton Submarine Reactor at General Electric's Knolls Atomic Power Laboratory; and Development Engineer at Socony-Mobil. For more than 11 years he was with Great Lakes Carbon Corporation as Director of Research and Development and Chief Process Engineer.

Dr. Gamson has published extensively in thermodynamics, kinetics, fluid flow, heat and mass transfer, high pressure phenomena, nucleonics and oil well logging.



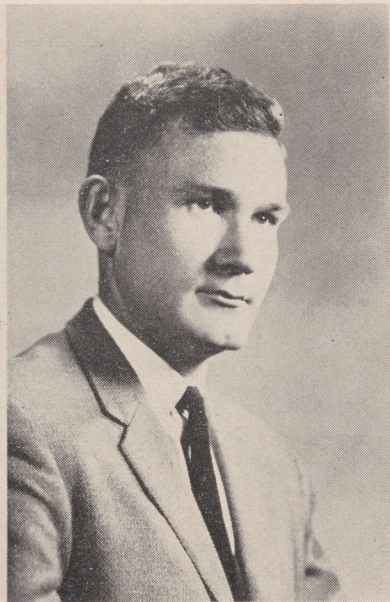
L. to R.: Max L. Murdock, Rosemary Banschbach, Jim Wernke.



Rosemary and Jim



## Borg-Warner Controls Names Tellurometer Canadian Representative



*R. K. Rosebrugh (left) General Manager, and J. B. Erskine, Technical Manager of Tellurometer Canada, Ltd. Firm has been appointed Canadian sales representative for Borg-Warner Controls complete line of products.*

Tellurometer Canada, Ltd., has been appointed Canadian representative for the complete line of products manufactured by Borg-Warner Controls, it was announced by Herb Ayers, General Sales Manager of the Borg-Warner Division, Santa Ana, California.

Formed in 1957 to handle the distribution of Tellurometer equipment—a microwave distance measuring system used in surveying work—Tellurometer also represents a number of international manufacturers of instruments and related electronic products in Canada.

As representatives for Borg-

Warner Controls, Tellurometer will cover all of Canada from headquarters in Ottawa, and with agents in Alberta and British Columbia. Additional coverage in Toronto is planned in the near future.

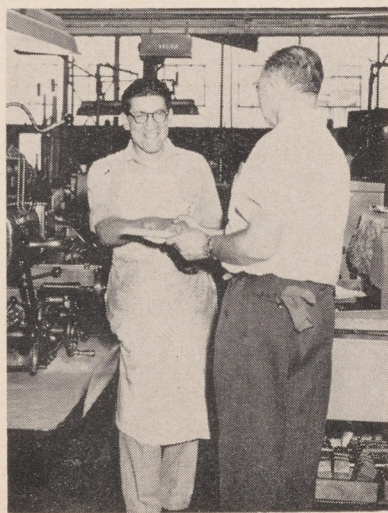
According to Mr. Ayers the appointment is part of a program of planned expansion by Borg-Warner Controls which will provide greater sales and service of the Company's products. They include transducers, accelerometers and pressure measurement systems; radio-frequency test instrumentation; miniature magnetic tape recorders; data reduction systems; and nuclear instruments.

## Congratulations

Eddie Aguilar has a proud record of ten years with Byron Jackson—and a HAPPY RECORD . . . take another look at that SMILE!

Even though Eddie's duties at BJ occupy a big chapter in his activities . . . his home life is supreme. With two daughters and a son, Eddie is blessed with four granddaughters . . . always a delight.

As special hobbies, when time permits, fishing, hunting and gardening are tops. However, Eddie really steps out as a traveler — having visited most of the Southwest, including Grand Canyon,



*Left, Edward (Eddie) Aguilar proudly receives ten year emblem from J. W. Bacon.*

## Borg-Warner Mechanical Seals A.S.M.E. Meeting



*Dave F. Strang*

Under the auspices of the Plant Maintenance & Engineering Divisions, the ASME held its monthly meeting at the Borg-Warner Mechanical Seal Plant in Vernon, California.

The principal speaker was Dave F. Strang, Borg-Warner Mechanical Seals, Houston, Texas. Mr. Strang gave a splendid talk, of much interest to the ASME members, who are regularly faced with problems rated "normal to severe." Today's challenges include unusually high pressures and temperatures, as well as severe corrosion problems, in the pumping of an increasing variety of fluids.

Mr. Strang had a good answer for virtually any seal problem, stating that Borg-Warner seals have been operating successfully with pump speeds up to 6,000

RPM, temperatures to 650 degrees F without cold water injection; and pressures over 1,000 PSI. An outstanding installation includes B-W Seals for a boiler feed pump with over 32,500 hours service, no maintenance—and still operating perfectly after four years of continuous service.

A wide range of research and development work is proceeding in the Borg-Warner Mechanical Seal Plant, pushing along to even greater achievements.

An unusually representative group was present at the ASME meeting, including engineers from leading firms in Southern California, as follows:

McCullough Tool Co.  
Sinclair Oil Co.  
Union Oil Co.  
Weber Aircraft  
Southern Calif. Edison Co.  
Hartford Steam Boiler  
Abegg & Reinhold Co.  
Northrop Corp.  
John Deere Killefer  
Sterling Machinery  
Kaiser Steel Corp.  
C. F. Braun & Co.  
Pasadena Light & Power  
AiResearch (Ind. Div.)  
Bethlehem Steel Corp.  
Crane Packing Co.  
Union Pump Co.  
Peerless Pump Co.  
Santa Ana Plastics  
Garlock Packing Co.  
Los Angeles Dept. of Water & Power  
Pacific Pumps, Inc.  
The Garrett Corp.

Representatives from Byron Jackson Pumps, Inc., included Ray Bibolini, W. A. Coahran, H. R. Klein and Gene Poffinbarger.

Borg-Warner Mechanical Seal personnel, in addition to Mr. Dave F. Strang, included T. J. Woodard, W. J. Wiese, M. J. Cahill and L. J. Alley.

Carlsbad Caverns, Yosemite National Park and other scenic spots in our famous hinterland.

Congratulations! Eddie, all of us trust you will be with your BJ pals for a long time to come.

Prices are constantly rising, and every day the value of Confederate money is approaching that of U. S. currency.

\* \* \*

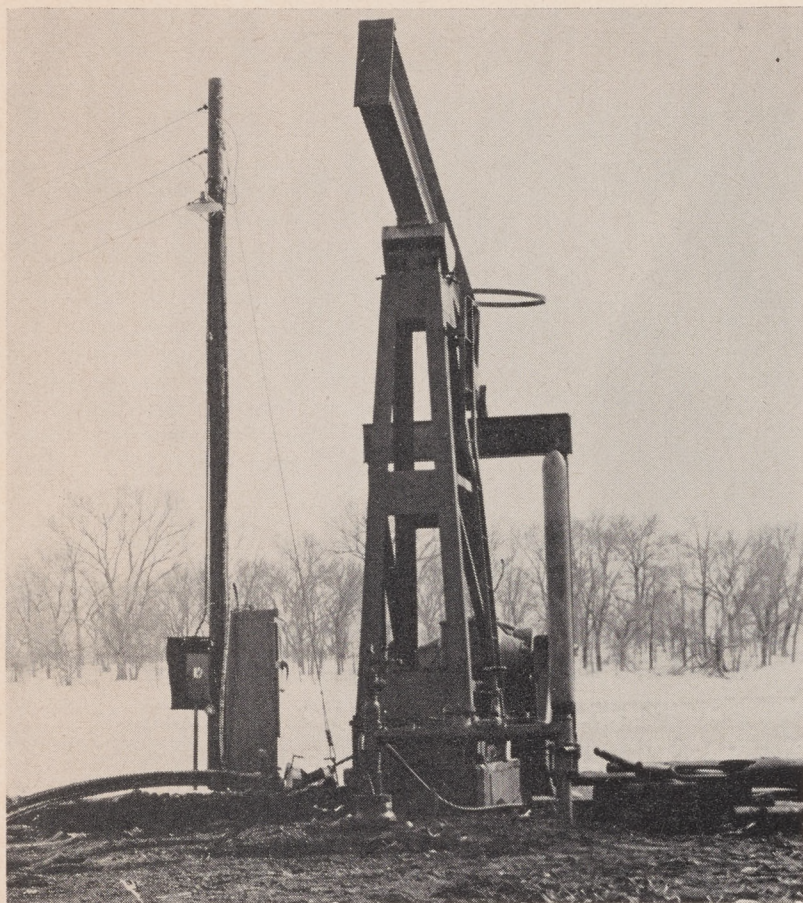
Some are beginning to fear that there will be a depression soon and that they will have to work for what they're worth.

## LINDA FLANDERS

Our deepest and heartfelt sympathy is expressed to the A. L. Flanders family, in the recent passing of their little daughter, Linda, on April 18, 1960, who was laid to rest in the Ivy Lawn Cemetery, Ventura. Linda leaves behind her a host of friends and loved ones to mourn her untimely passing, as well as many precious memories of her childhood.



# 500% Increase In Production - and Income with BJ CENTRILIFT Pump



Conventional walking beam unit—replaced by Byron Jackson "CENTRILIFT" submersible pumping unit on Miles Lease.



Byron Jackson "CENTRILIFT" pumping unit on Miles Lease, as it appears at the surface. All large, cumbersome, reciprocating, surface equipment has been eliminated. Electrical power is transmitted to the CENTRILIFT motor, through Byron Jackson special power cable. This cable is three conductor, steel armored construction, designed for dependable transmission of power to the 100 horsepower CENTRILIFT motor located 3000 feet below the surface.

## Specifications

CAPACITIES: To 17,000 BPD

DEPTHS: To 12,000 Feet

SIZES: 5½" OD Casing; 6⅝"

OD Casing; 8⅝" OD Casing.

## BYRON JACKSON

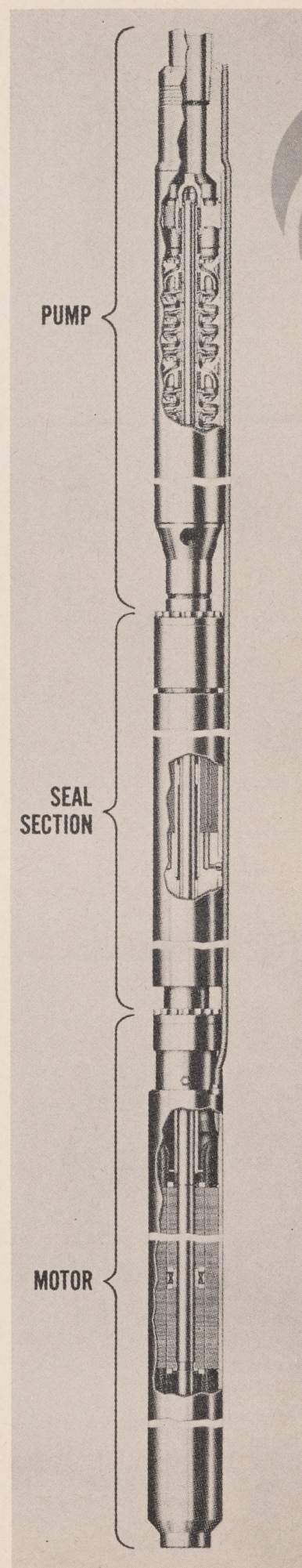
.... Since 1872

Since 1872, Byron Jackson has been a leading pump manufacturer. In 1901, BJ developed the *first* deep well turbine pump—the first pump that could operate in small bore well holes of great depth. In 1923, BJ produced the *first* electric-motor-driven centrifugal pipe-line pump . . . used to replace bulky, conventional reciprocating steam pumps and boilers. A few years later, BJ built the *first* submersible motor pump in America and has held leadership in this pump design—as well as many other types of pumps—ever since. From this extensive background of accomplishment and continuing leadership comes the great new Centrillift submersible—destined to make Byron Jackson the leader in sub-surface pumps for the oil industry.

Nemaha Oil Company of Dallas operates the Miles lease which is located in the Dawson Field, Richardson County, Nebraska. This is approximately 100 miles South of Omaha. Production is from three separate zones—Hunton, Viola and Wilcox. All zones have a prolific water drive; however, the oil recovery history of the field has been exceptional in comparison with any of the major oil fields of the nation. The wells start producing water with the oil soon after completion, and the decline in oil production is steep.

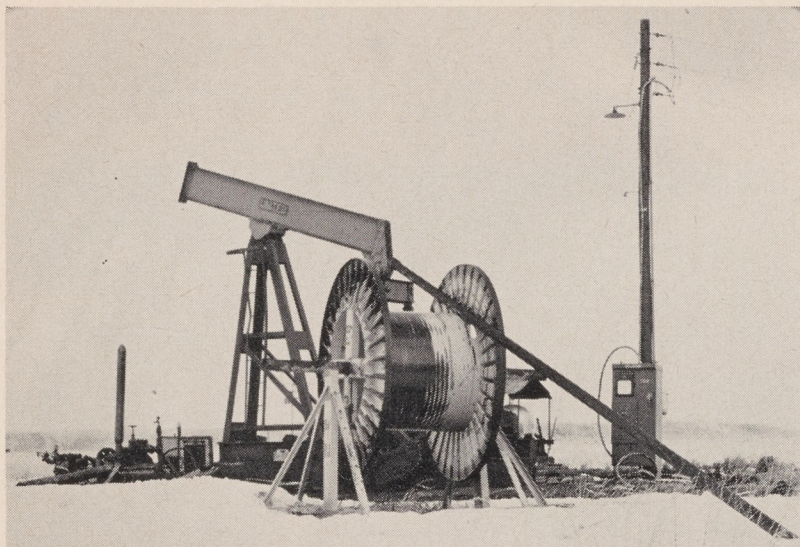
The expensive problems of handling high volumes of water with conventional beam units are complicated by severe winters and corrosion.

Most of the wells surrounding the Nemaha property have been plugged and abandoned. At the time of the CENTRILIFT installation in the Miles C-2 well,



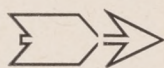


# Dramatic Results when BJ CENTRILIFT Replaces Conventional Walking Beam Pumping Unit

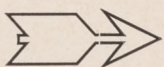


*This photo shows large reel—used to effectively handle the Byron Jackson steel armored power cable—for this installation—about 3,000 feet.*

*Showing simple surface arrangement including: 1.—Power cable. 2.—Discharge flow column, with check valve, gate valve and the flow line which delivers the oil and water to the tanks. 3.—The entire weight of CENTRILIFT pump, motor, discharge column and power cable—18,000 pounds—is supported by small steel plate shown—which is located at top of the well casing. No concrete foundation is required. 4.—The three 50 KVA, pole mounted transformers—in background—are specially wound Byron Jackson units for reducing line voltage from 12,470 to 950 volts.*



*Close up view of Byron Jackson, outdoor, electric motor starting equipment. Technically, this switchboard is rated 1200 volts-100 amperes. It includes overload and underload protection, recording ammeter for visual, continuous record of motor load; disconnect switch and other essential safety controls.*



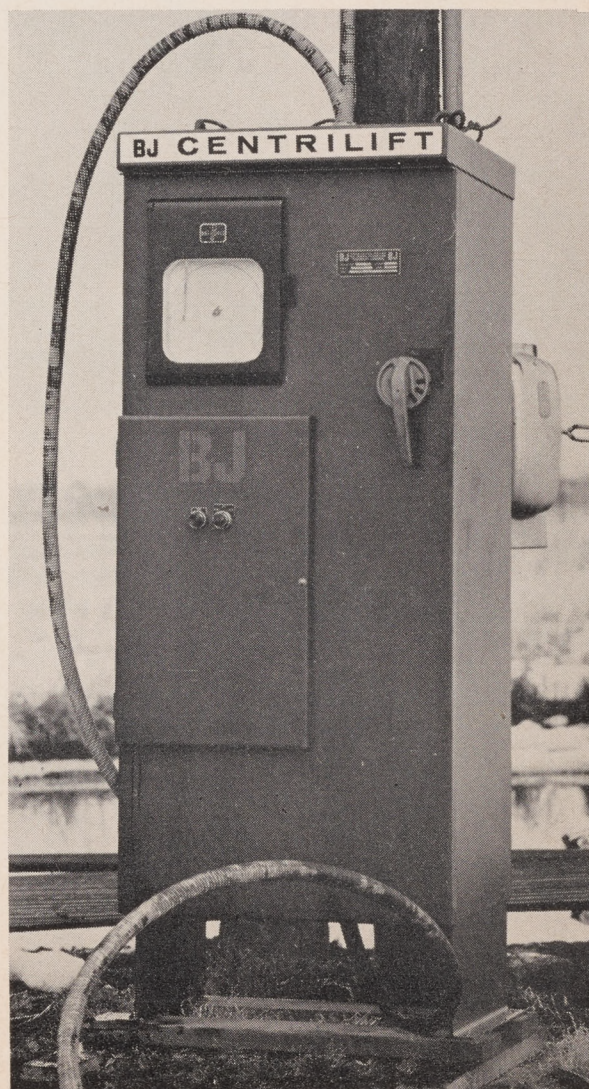
production had declined to 20-25 barrels of oil per day with 700 barrels of water—approximately 3% per cent oil, 97 per cent water. John Beavers and Ed Ireland (BJ - Tulsa) installed a 100 HP, 88-stage, A-100 CENTRILIFT pump last February, and the results can be classified as *dramatic*. Total fluid production was increased to 3,400 barrels per day with 125 to 130 barrels of oil. After two months of operation the oil production appears to have stabilized at 100-110 barrels per day with 3,400 barrels per day of water.

This 500 per cent increase in production—and income—would not have been possible with any other type of equipment that could be installed in 7 inch diameter casing. The Byron Jackson equipment will enable the operator to recover more oil at a greater profit in a shorter per-

iod of time. And while this result is attractive, the property is not unique.

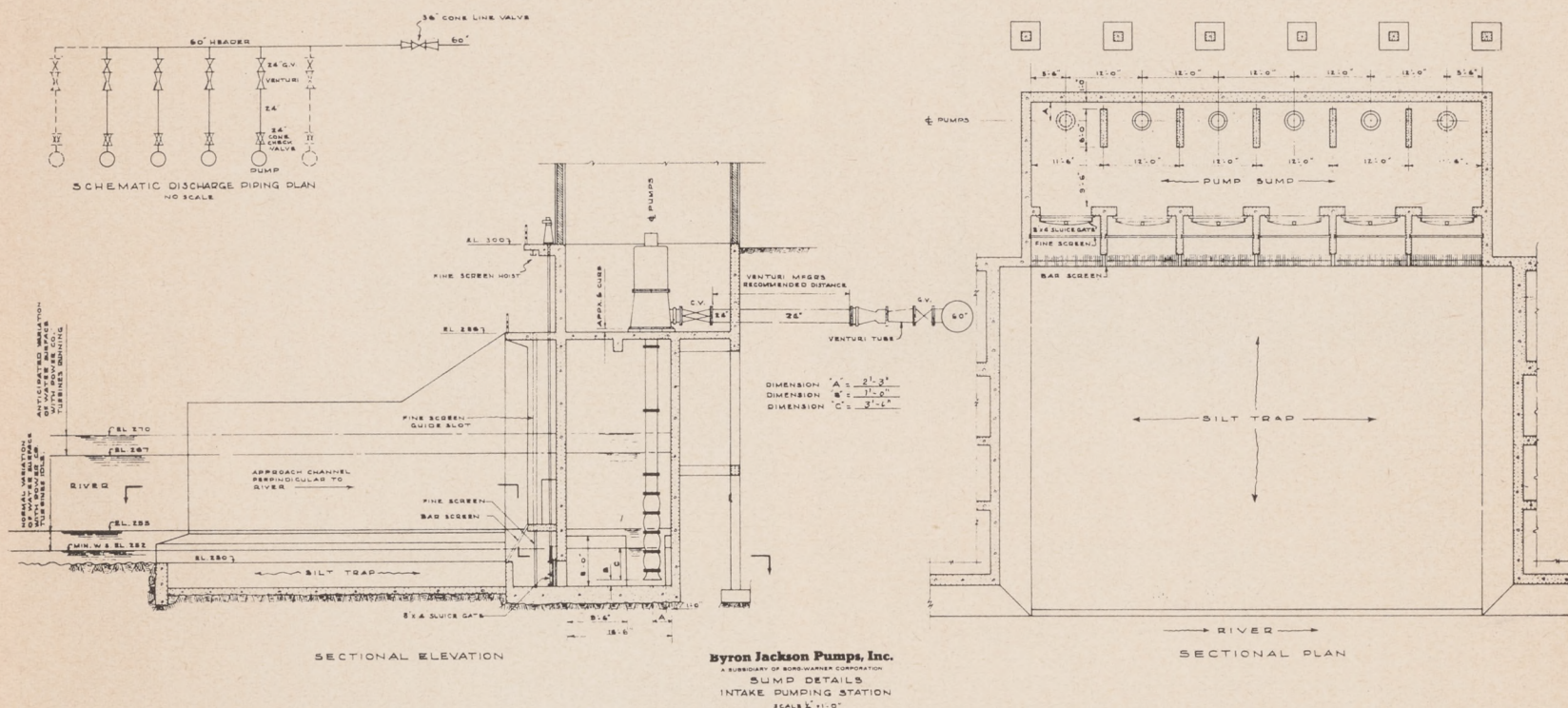
There are many other oil fields in the Mid-Continent, Rocky Mountain, Permian Basin, West Coast and other areas where the same or better results will be achieved with CENTRILIFT equipment.

Such prospects as these exist in many natural water drive oil fields, but the really exhilarating potential of CENTRILIFT lies in the hundreds of *water flood projects*—secondary recovery measures—throughout the nation. Just one Texas-size project—the Spraberry flood—if developed according to plan, could result in enough oil field submersible pump business from the one project to support a large plant. A conservative estimate of this potential would be \$20,000,000 in sales and repair income over the next 15 years.





## BIRMINGHAM BUYS BJ PUMPS



Byron Jackson Pumps, Inc., is very proud to have earned a contract, running rather high in a six digit figure, for a number of vertical pumps purchased by the INDUSTRIAL WATER BOARD OF THE CITY OF BIRMINGHAM, ALABAMA.

As usual, with a large and important installation, a great deal of analysis and experience were applied to the requirements, with much cooperation extended by the City's representatives to Messrs. Ed Stegman and Ed Dailey, as well as to other officials and engineers from Byron Jackson's Los Angeles Office. Review of Birmingham's special requirements covered a period of over two years; with much attention being paid by BJ's engineers to a consistent design for the river intake — as shown by the accompanying diagram. The "SILT TRAP" designated on the print — as referred to the total volume of the Byron Jackson pumps, is one of the largest in the country. At considerable cost because of the large area, the "SILT TRAP" insures a minimum of silt, or other debris, erosive material, etc., being handled by the Byron Jackson units.

Four BJ units are covered by



"BIG DADDY"

the present contract, each pump being driven by a 1750 horsepower electric motor, at a speed of 900 RPM. Each 36 RXL - 32 KXH five stage unit is designed to deliver 10,425 gallons of water per minute at a TDH of 472 feet. Each pump includes a special selection of impellers, designed for maximum efficiency, considering submergence, varying surface elevation of the river intake, etc. Further, each unit will be initially designed so that at some time in the future—each pump, with a change in the impellers, can be increased in effec-

tiveness to reach a TDH of 540 feet.

The pumping plant—as indicated on the accompanying print — provides for two additional units to be added when required at some future date.

Space does not permit of telling of the many conferences re-

garding this outstanding installation; and the wealth of Byron Jackson experience applied to solving the special problems. HOWEVER, Byjac News readers can guess at "who won what"—how much, who paid off—and who is "WALKING WEST" . . . walking . . . walking . . . walking.

BYRON JACKSON DIVISION  
BORG-WARNER CORPORATION

FROM: ED STEGMAN  
TO: NORM D. JESSE  
SUBJECT: "BIG DADDY"

OFFICE: BIRMINGHAM, ALABAMA  
DATE: May 20, 1960

Dear Mr. Jesse:

Now that the Birmingham contracts are signed, sealed and delivered - - I can finally bring to a close. . . our little wager!!

We intended to have a PROPER AND FORMAL PRESENTATION at our meeting in Atlanta. . . .BUT. . . . you conveniently DUCKED OUT!!

THEREFORE, and TO WIT: It is with great pleasure that we present to you the "SOUTHEAST WALK WEST AWARD". In order to derive the greatest - and the utmost - in pleasure. . . . PLEASE FOLLOW THESE INSTRUCTIONS:

- (1) Place tin hat on tin head.
- (2) FACE WEST AND WALK.
- (3) WALK, WALK, AND WALK SOME MORE.
- (4) If hat is NOT FLOATING, KEEP WALKING!!!

Nuff said

*Ed Stegman*  
Ed Stegman



## News From Edmonton Canada



L. to R.: Jack File, Arch Boyd, Scarbrough Hartley, Nelson Peeler.

The Eighth Annual International Oilmen's Bonspiel was held in Edmonton, Alberta, Canada. This Bonspiel is *strictly for Oilmen* and there were 160 teams entered with four men on each team, or a total of 640 Oilmen.

The game played is Curling which is similar to our Shuffleboard except it is played on an ice rink 148 ft. long and approximately 16 ft. wide. The Tee or the target known as the House is 12 ft. in diameter. Curling rocks weigh approximately 40 lbs. and are delivered down the ice by means of a handle on top. Curling is the only organized sport where the players SHAKE HANDS before and AFTER THE GAME!

The games consist of 12 ends—six up and six back. Each player delivers two rocks alternately with his opposition. If the rock is not delivered in the exact man-

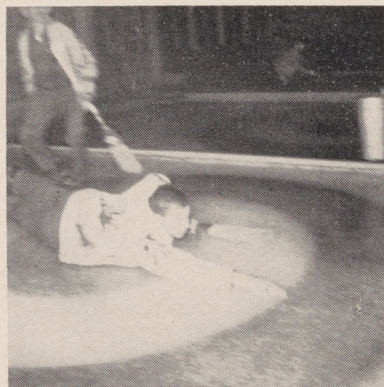
ner the Skip requests, the other two players sweep ahead of the rock, thereby changing the characteristics of the ice and the direction of the rock. The broom used to sweep with is of a special long straw type and the rocks are solid granite, concave on the bottom to keep them sharp with a special handle on top for delivering.

A rock that is light and does not pass the Hog line or is too heavy and goes past the back line is taken out of play. The only rocks that count in scoring are the ones within the Tee. Scoring is determined by the rock closest to the center of the Tee but all of one team's rocks within the Tee may not be counted if an opponent has a rock in the Tee closer than your second or third. This is much the same manner of scoring as horseshoes.

The team consists of four men



O. J. (Jack) File



"Scaby" Hartley

—Lead, Second, Third and Skid, who is the Captain. Each player throws 1000 lbs. of rocks and walks approximately *two miles in each game*. The walking is necessitated by the sweeping if the rock is too slow, etc. Each team plays a minimum of five games and a maximum of ten games with a time limit of 2½ hours per game in this Bonspiel.

The enclosed rink under which the game is played is kept at a maximum temperature of 28 degrees.

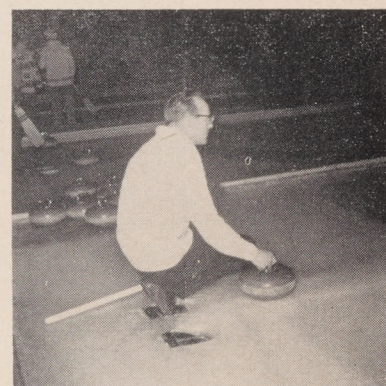
The team Byron Jackson entered in this Bonspiel included Jack File, Lead; Nelson Peeler, American Iron, Second; Scarbrough Hartley, Owner of Native Solids Controllers, Third; and Arch Boyd, Byron Jackson's District Manager of Calgary, Skip. The original team entered included Harvey Ward, Supt. for Arrow Drilling Co., who had to drop out at the last minute due to business activities.

Curling is the *number one winter sport* in Canada as is bowling in the States. There are about ten Curling Rinks in Edmonton with as many as 20 ices or lanes. It is quite remarkable the control the curlers have over the rock which is slid down the ice 136 feet from the Hack to the Tee.

Jack File had the opportunity to watch Matt Baldwin, International Champion, 1957-1958 Curl, in last year's meet.

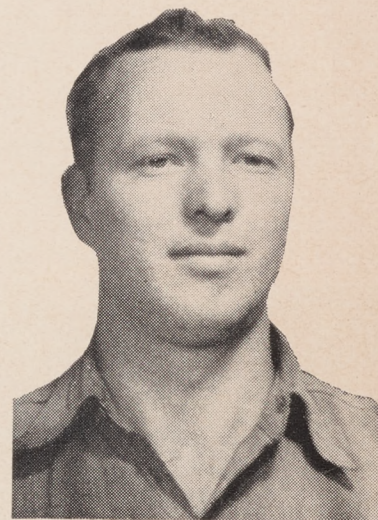


Arch Boyd

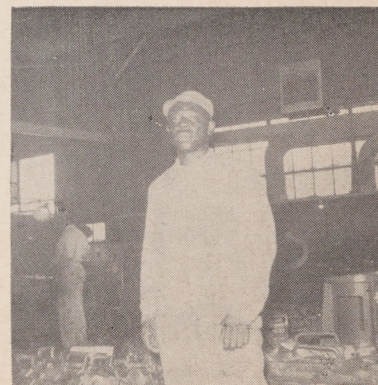


Nelson Peeler

### Congratulations



George Hitt, 20 years



Spencer Hightower, 5 Years



# North America's Most Valuable Natural Resource

## THE ENIGMA OF ATHABASCA

### Treasure Hunt of the Century

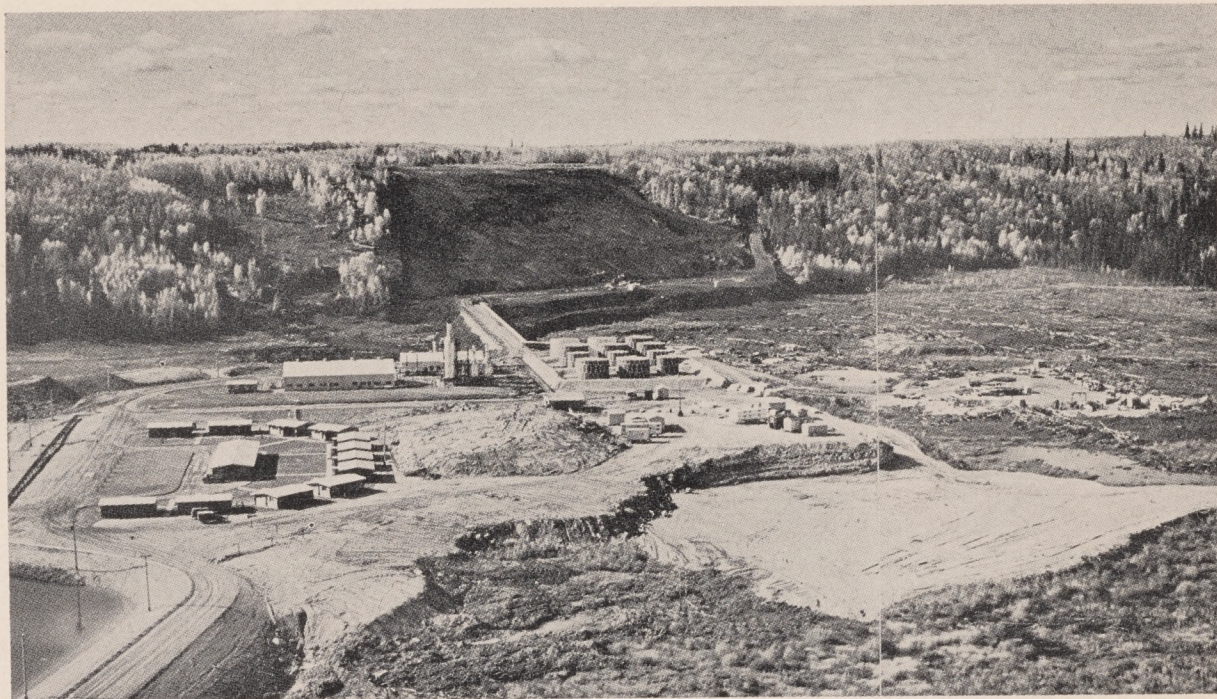
For millions of years the oil-soaked gritty substance cupped in these hands has remained locked in a lonely muskeg-laden pocket of the Canadian north. It was there long before human life made its appearance on earth; long before the Ice Age helped scour today's lines into Canada's face.

Slowly, down through time, the world's greatest known oil deposit—larger than any other in North America, the Middle East or South America—was trapped in the now-famed Athabasca oil sands of northern Alberta.

These sands (some at the surface, some at varying depths down to 1,500 feet) contain an estimated 100 to 300 billion barrels of crude oil. For more than 60 years men from a half-dozen countries have sought a technique that would free the oil, simply and cheaply.

Early this year four oil companies once again took up the challenge. Pooling their effort in the most comprehensive research project ever undertaken on the sands, Imperial Oil, Cities Service, Richfield Oil Corp. of Los Angeles and Royalite Oil Co. will pour millions of dollars into experiments aimed at solving the riddle. Instead of *drilling* for oil they will "mine" for oil.

Conventional oil deposits are



*Imperial Oil has joined three other oil companies in an experiment aimed at commercial development of the world's largest single oil reserve.*

trapped underground in the pores of rock. The oil is forced through drill holes to the surface by subterranean gas and water pressure and, as natural pressure recedes, by pumping.

But the Athabasca deposit consists of firm, saturated, grains of sand. It looks and feels somewhat like plasticine and smells like a freshy tarred road. It ex-

tends over an estimated 30,000 square miles along the banks of the Athabasca River, 300 miles north of Edmonton. Since much of it lies below the surface, there are varying estimates of the reserves. But in the area where the sands lie at or near the surface they contain more than 40 billion barrels of recoverable oil—*about the same amount as the entire proved crude oil reserves of North America.*

In the latest venture, the four companies have moved a specially-designed mining wheel (adopted from models used in Germany's Ruhr Valley) into the Mildred Lake region, some 30 miles north of McMurray. Here, where a \$3.5 million pilot plant is in operation, the sands occur at the surface and range from 150 to 200 feet thick.

The rotating wheel, nine feet in diameter and resting on tractor treads, has six buckets with hard-surfaced cutting edges. They strip sand from the surface and drop it on a conveyor belt which transfers the load to a portable extraction plant. Water and a light oil diluent are added to cause the sand to precipitate, freeing diluted bitumen for further processing.

However, "mining" the sands

is costly. It takes approximately a ton of sand to produce a barrel of bitumen. The companies there for face a combined problem in techniques and economics: the Athabasca oil must be partially processed on the site and transported to a refinery at a price which will allow it to compete economically with oil produced by conventional means.

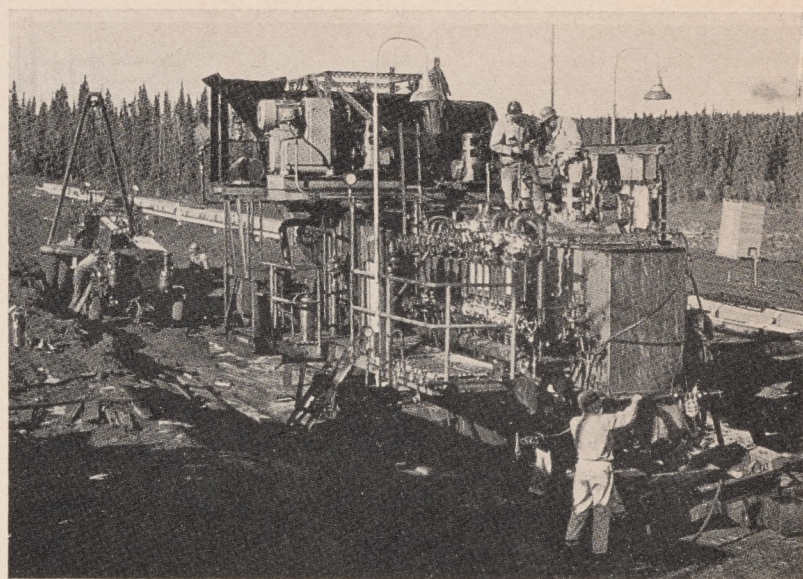
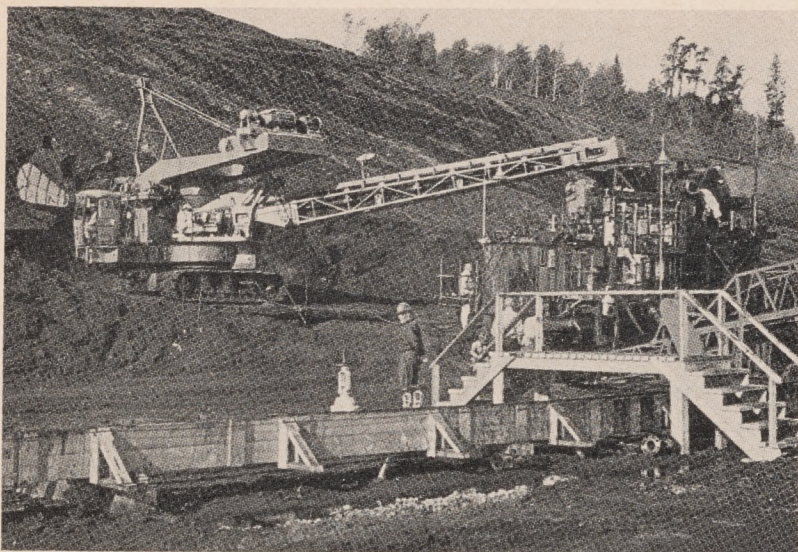
Yet the prize is worth the effort. Already, in 60-odd years, men have spent between \$50 million and \$100 million trying to extract oil from the sand economically. And they have been eyeing the deposits for nearly two centuries. Traveling down the Athabasca River in 1788, Sir Alexander Mackenzie observed dark veins in the cliffs and "some bituminous fountains into which a pole of twenty feet may be inserted without the least resistance." Ten years earlier, explorer Peter Pond noticed Indians caulking their canoes with pitch from the river banks. Neither man could have dreamed that this substance would one day cause excitement reminiscent of an old-time gold rush.

In the river town of McMurray the oil sands fever *does* go back to gold rush days. The first oil seekers tried drilling for it on the theory that whole lakes





# World's Largest Oil Deposit-ATHABASCA



*The new northern venture is in a remote area, 300 miles from Edmonton. At the base of the oil sand escarpment a specially-designed mining wheel, carrying six buckets (above), removes the sand and pumps it on a conveyor belt for transfer to the extraction unit (right). From here liquid hydrocarbons go to the refining equipment which can process daily 3,000 barrels of the bitumen-diluent mixture.*

must lie beneath the saturated sand. In 1897 federal geologist R. G. Connell sunk a hole upstream at Pelican Rapids but found no oil. The same year an enterprising German nobleman Alfred von Hammerstein noticed the sands while on his way to the Klondike. He lost a fortune drilling six dry holes.

Since then the history of the oil sands has been depressingly similar but on a much larger scale.

Royalite, one of the firms sharing in the current experiments, devoted much effort and expense to a centrifugal unit intended to separate sand from oil by whirling it loose in huge bowls.

An Alberta Research Council chemist, Dr. Karl A. Clark, spent 40 years studying the commercial development of the sands. He favored flushing the sand with hot water which would cause the oil molecules to attach themselves to bubbles of air and ride to the surface.

Other experimenters have recommended squeezing the sand, blasting it with an underground atom bomb, and cracking it apart with ultrasonic waves. One even suggested coating the sand with a bacteria that would strip the oil free. A resourceful Montana oil man named J. O. Absher once tried to set fire to the sands and condense the residual vapors.

Before World War II, a Denver geologist, Max Ball, built a pilot plant called Abasand a mile from McMurray. During the war the Canadian government took it over for hurry-up development when it looked as though enemy submarines might seriously cur-

tail imports. Nearly a million dollars was spent rebuilding and extending the plant. Then, at war's end, a welder's spark sent the place up in flames.

This was only the beginning. At Bitumount, 60 miles down river from McMurray, two other luckless firms went aground on oil sands experiments. Then the Alberta government stepped in with a \$700,000 plant to test Clark's hot water theory. Although Clark and others claimed the sands could be exploited at a profit, the government couldn't interest firms in commercial development.

The Suez crisis again boosted the oil sands into the world oil

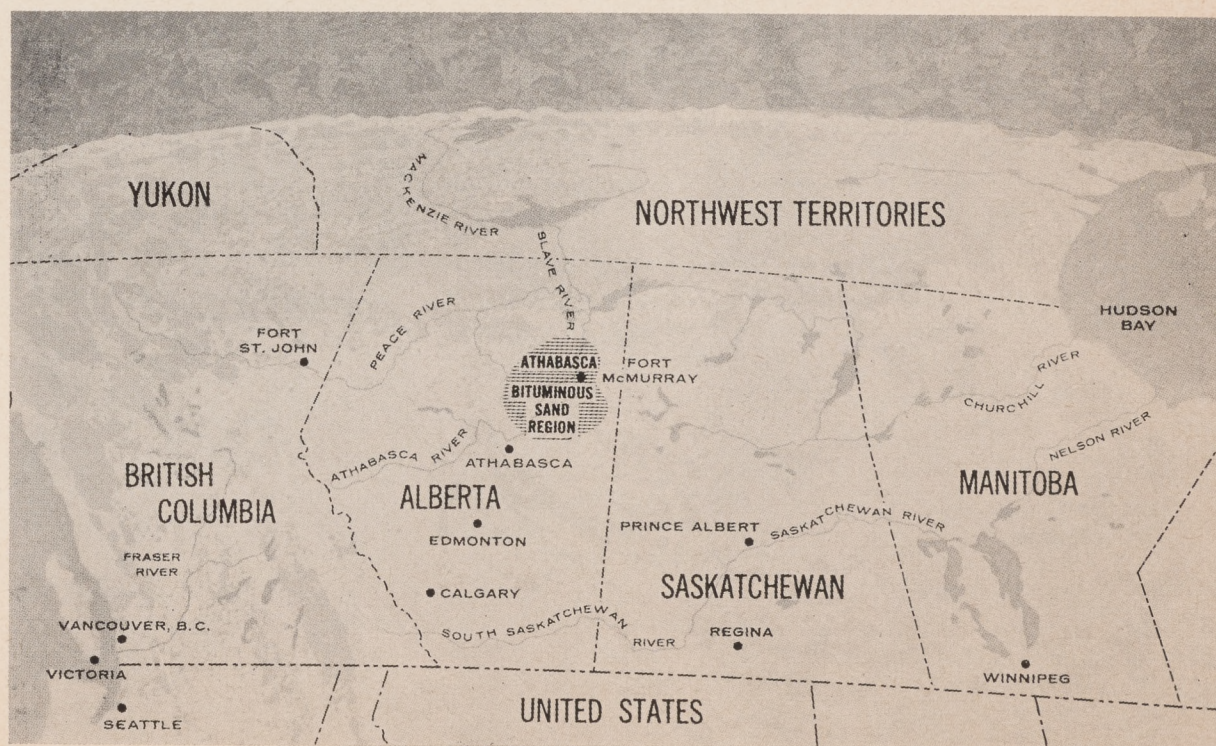
limelight: here lay the world's greatest potential oil supply safely removed from shipping disruption. But the Suez crisis was brief and suddenly there was a surplus rather than a shortage of oil in the West.

Nevertheless, if techniques unfold and markets develop, the oil sands may yet prove to be Canada's most valuable single natural resource. Authorities already know that a good quality oil can be refined from the deposit. So, the mining wheel bites into the black banks of the Athabasca—opening yet another chapter in the treasure hunt of the century.

EDITOR'S NOTE: Readers

are referred to Page One of January 1950 BYJAC NEWS, featuring Byron Jackson high pressure pumps included on the multi-million dollar oil pipe line which now extends from Vancouver, British Columbia, on the Pacific Coast, to Atlantic Coast shipping at Toronto Canada. A 300-mile pipe line would connect the Athabasca Oil Fields to this trans-continental oil line.

With much appreciation, the accompanying story concerning activities in the Athabasca Oil Fields appears in this issue of BYJAC NEWS through the courtesy of Imperial Oil Review, published by Imperial Oil Limited, Toronto, Canada.





## Congratulations to the Honey Mooners



The Byjac News—for all their friends—expresses belated wedding congratulations and best wishes to Pat Dolan, of BJ's Industrial Engineering Department, and Donna McGaffey, formerly with Production Control Vernon Plant One, in becoming Mr. and Mrs. last December 12, at Las Vegas, Nevada.

After the momentous occasion, they enjoyed a two weeks honeymoon at Carson City, Lake Tahoe, San Francisco, Monterey, and the beautiful California

Coast Line. In fact the honeymoon is really just beginning for these two nice kids.

Pat has been with Byron Jackson for the past six years, and Donna has spent two years with our company. However, after becoming Mrs. Dolan she accepted a position as private secretary with a neighboring manufacturing concern.

Our very best wishes to this lovely couple, and may their happiest days be together — for a long, long time!

O discerning ones, thirst for knowledge is welcome.

But what is in art that fails to grasp the reality of things.

The object of all art is to attain warmth of life immortal.

What good is existence for a breath or two like a spark.

Without a miracle nations cannot rise.

What is art without the striking power of Moses's staff!

—Iqbal.

"What is more delightful than getting tired and then resting?" asks a physical therapist. *Resting.*

\* \* \*

"Physician Saves Life of Man *Fatally Shot.*" — Headline. In no other field of human endeavor is *more progress* being made than in medical science.

\* \* \*

Old timers are terribly afraid that all this unprecedented prosperity will eventually bankrupt us.

## BJ SERVICE INC. NEWS



When OUR Rod Wiese (6'8" son of YOUR Walter) came back from Farmington, New Mexico, having performed well surveys — and having surveyed Farmington well! — Rod told us about the *record catch* of Rainbow Trout, shown in accompanying picture. Rony Simmons, on the left, is assistant shooter in

our Farmington Station; Cecil Gustin, center, is in the pump department; and Orville Curtis, at the right, is the chief mechanic, the boy that keeps the machinery rolling over all those rough roads. This is Rony Simmons' favorite fishing spot—and no wonder—their party caught *their limit* in a short time!

## More Colorado River Water For Denver

The final holing through of the Roberts Tunnel, which will transport water from the western slopes of Colorado to the Denver metropolitan area, took place Feb. 24. The 23.3-mile aqueduct is 10 ft. 3 in. in dia and runs under the Continental Divide. Construction started in the summer of 1956.

Headings were driven from the west portal near Dillon and from the east portal at Grant. A 916-foot access shaft at Montezuma was completed Sept. 30, 1957 and on the next day excavation was started toward the east portal from the bottom of the shaft. Excavation started toward the west portal from the bottom of the shaft on Oct. 5, 1957.

The west section of the tunnel, 8.522 miles long, between the west portal at Dillon and the access shaft was holed through

last Jan. 2. The alignment (side-wise) error was 1½ inches and the vertical error in grade was 2½ inches.

The east section of the tunnel, 14.750 miles was holed through February 4. The alignment error was 14½ inches and the elevation error was 4 inches.

Editors' Note: See Page 22 of September 1959 BYJAC NEWS for similar story regarding the \$160,000,000 "The Colorado-Big Thompson Project." The Roberts Tunnel, at a cost of about \$40,000,000—is part of the second project, to also deliver Colorado River system water under the Continental Divide to serve the City of Denver. The project was financed by the citizens of Denver as a part of a \$101,000,000 water plant betterment program.

Make a better mousetrap, and dozens of imitators will copy its appearance with a cheap imitation and put it on the market at *cut-throat prices.*

It was only recently that we learned what the far side of the moon looked like — and we've already forgot what it looked like.



## HEXADECANOL Chemical 'Roof' Studied for Lake

A "roof" of chemical film has been proposed to conserve water in 3,000-acre Lake Cachuma, northwest of Santa Barbara, California, by preventing evaporation.

The lake supplies water to coastal communities from Goleta to Carpinteria and also supplies irrigation water to farm areas in the nearby valleys.

### First Time in State

H. R. McDonald of the Denver office of the Bureau of Reclamation said the bureau is asking permission of four water districts and the city of Santa Barbara to conduct experiments. The chemical has never been tried before on a California lake.

The experiment would involve using *hexadecanol*, a fatty alcohol manufactured by several chemical companies and often used in lipsticks.

McDonald said the white, flaky substance would not dissolve in water and causes formation of a skinlike film on the water surface, greatly retarding evaporation. Fish would not be affected, he said.

### Large Saving Seen

Water district authorities said lake evaporation amounts to as much as five vertical feet a year. They said that an effective surface seal might save hundreds of acre-feet a week.

Successful experiments have been made at Lake Hefner in Oklahoma, McDonald said.

Water district officials are considering the proposal.

BYJAC NEWS EDITORS' NOTE: Readers are referred to similar articles that have been published in the BYJAC NEWS, as follows: May 1959 - Page 14; May 1959 - Page 17 - University of Arizona Experiments; Nov. 1956 - Page 20 - Kenya, South Africa.

U. S. Bureau of Reclamation tests on Lake Mead, Colorado River, above Hoover Dam, from 1936 through 1949, show an annual evaporation loss of 6.5 acre-feet per acre of area; or an ANNUAL LOSS of 850,000 acre feet of water. At \$20.00 per acre-foot, this makes a total of \$17,000,000.00 loss per year.

## Evaporation—And 100,000,000 Barrels of Oil Per Year

It is very interesting to realize—in connection with the use of Hexadecanol to reduce evaporation of water from LAKE CACHUMA, near Santa Barbara, California, that a new plan for the use of ASPHALT has been suggested.

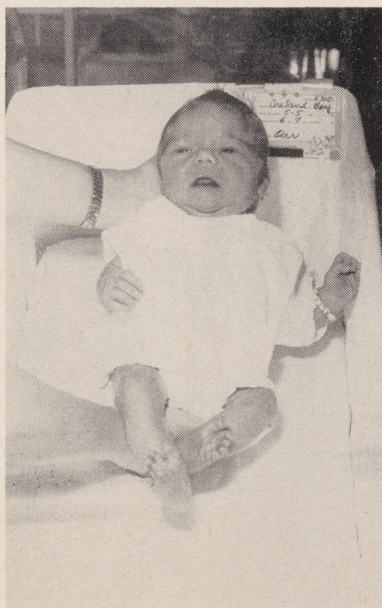
President M. J. Rathbone, of the Standard Oil Company of New Jersey, in a speech on May 19, 1960, before the American Petroleum Institute at Cleveland, made the announcement.

Mr. Rathbone cited several new uses of oil being developed by the Standard Oil Company of New Jersey.

One use involves spraying a film of asphalt over farm soil right after seeding in semi-arid areas to prevent evaporation of moisture in the ground during plant germination. The crop grows through the film.

This technique can make almost worthless land useful and only its very limited application could lead to an increase in the use of asphalt, a petroleum product, ranging up to 100 MILLION BARRELS per year, Mr. Rathbone explained.

## Stork Visits Ed Ireland Family



Congratulations are being joyously accepted by Ed Ireland, Service Supervisor-Electrical Engineer, of BJ's Centrilift Divi-

## Bob Woods Elected Membership Chairman For A.A.O.D.C.



Left, Bob Wood and  
Clyde Compton



Left, Martin Conrad  
and Clyde Compton

Bob Wood, BJ Sales and Serviceman at Farmington, New Mexico, was selected Membership Chairman of the Four Corners' Chapter of the American Association of Oilwell Drilling Contractors, which is an assignment he enjoys immensely, and at the same time offers Bob many freindly contacts with men who

sion operating out of Tulsa, Oklahoma, who became the proud father of his first son, born on May 5, 1960.

In spite of rain, hail, and cyclones, the stork arrived at the Hillcrest Medical Center at 2:42 a.m. to deliver Carey Lynn Ireland, weighing 6 lbs. 7 ozs., and 18 inches long!

Best wishes from all of us to the Ireland family, and may Carey Lynn be blessed with health, wealth, and happiness.

use Byron Jackson equipment.

In accompanying pictures are Bob Wood and Clyde Compton, (a PB development engineer) enroute to well location in southwest Colorado; as well as Clyde Compton and Martin Conrad (a tool development engineer), alongside BJ car on a *plowed out road* leading to a drilling location in Colorado near New Mexico state line, elevation approximately 9,000 feet!!

Incidentally the Four Corners' country is in the thawing season now, and the rivers and arroyos are running "full"—lots of silt, sand and water. The high mountains are still very much snow covered but the snow is beginning to melt there, also. The area shown in the photos is typical of the location where wells are drilled summer and winter.

(Continued from Page 4)

## STODDARD

blending these surroundings with friendly atmosphere. There are three offices and a conference room. The offices are occupied by Superintendent Ken Stoddard; Maury Ware, Asst. Supt., and Sarah McCaffery, Secretary. An invitation is extended to all personnel wishing to see the "latest" in a modern plant office."

Not too long after this very auspicious beginning, Ken Stoddard began to feel the effects of a mysterious malady. Notwithstanding everything that could be done, Ken's health deteriorated and kept worsening over the following months.

On May 8, 1960, Ken passed away, with services being held on May 12 at the St. Raymond's Catholic Church, 12320 Paramount Boulevard, Downey, California. Interment was at the Holy Cross Cemetery.

As is obvious from the accompanying pictures, Ken enjoyed the best of health prior to his peculiar illness; and was a great big husky, fine looking fellow.

Ken joined Byron Jackson way back in March 1936, in the Pump Division, as an Assembly Helper. Because of his innate ability, gracious personality and ambition, Ken steadily earned promotions, becoming Superintendent of Plant III.

Following splendid performance in this position; and because of Ken's thorough familiarity with BJ pumps; and wide acquaintance with general produc-

(Continued on Next Page)



## Boys' Day in Industry at BJ Plants



### Los Angeles City Board of Education

ELLIS A. JARVIS  
SUPERINTENDENT OF SCHOOLS

#### Administrative Offices

450 North Grand Avenue  
Mail Address: P.O. Box 3307, Terminal Annex  
Los Angeles 54, California  
MAdison 5-8921

EVERETT CHAFFEE  
ASSOCIATE SUPERINTENDENT  
DIVISION OF INSTRUCTIONAL SERVICES

AVERILL M. CHAPMAN  
ADMINISTRATOR OF CURRICULUM  
CURRICULUM BRANCH

May 13, 1960

Mr. William N. Beadle  
Public Relations Division  
Byron Jackson  
Division of Borg-Warner Corporation  
2300 E. Vernon Avenue  
Vernon, California

Dear Mr. Beadle:

In answer to your letter of May 9th, please find enclosed the list of boys with their respective schools, that visited your plant on May 3rd.

#### Bell High School

Bob Banken  
George Knox  
Ray Madey

#### Banning High School

Richard Phillips  
Val Candari  
Bob Duncan  
Kenny Butterfass

#### Gardena High School

Brian Simpson  
Jerry Gray  
Fred Lindenberg

#### Grant High School

Brian Arnold  
Hal Lyons  
Ronald Beilharz

#### Narbonne High School

Walter Richards  
Bill Van Camp  
Carlos Villerreal

#### San Pedro High School

Steve Fisher  
Mike Golden  
Tom Grande  
Tom Martin

#### South Gate High School

Roger Woody  
Bruno Kauz  
James Coopridner

#### Wilson High School

Leo Francone  
Richard Rannis  
Victor Sanchez  
Mike Regan

Thanks very much for the picture and for your assistance in this program.

Sincerely yours,  
David F. Randolph  
David F. Randolph.

### STODDARD

(Continued from Page 19)

tion problems, Ken was promoted to the position of Senior Engineer in BJ's group of key men who plan for our future, generally referred to as the Byron Jackson Industrial Engineers.

Energetic in all his activities, very loyal in all his friendships, Ken Stoddard possessed in rare measure an understanding and good nature which endeared him to all his associates and friends.

Ken's many friends at Byron Jackson extend to his family and loved ones our deep sympathy and understanding in their bereavement.

### URANIUM AND A.E.C.

Uranium available in the U. S. at present prices will support the projected U.S. nuclear industry beyond the year 2000, according to Dr. Chauncey Starr, general manager, *Atomics International Division, American Aviation, Inc.* He said that if the same considerations are applied to world requirements and resources, the present price would satisfy world needs well after the year 2000.

More than 1,000 companies are pushing accelerated research programs to develop new ther-

moelectric applications. Sensational discoveries in electronic heating, cooling and power generation are expected to revolutionize the aircraft, automobile, metallurgical, refrigerating, heating and appliance industries during this decade. Forward-looking metal companies are appraising the impact which this new development will have on metal requirements. Large investment groups are getting set to shuffle their long-term portfolios to take advantage of expansion which companies entering the new field will experience. One casualty could be the piston engine, either through thermoelectric discoveries or development of the

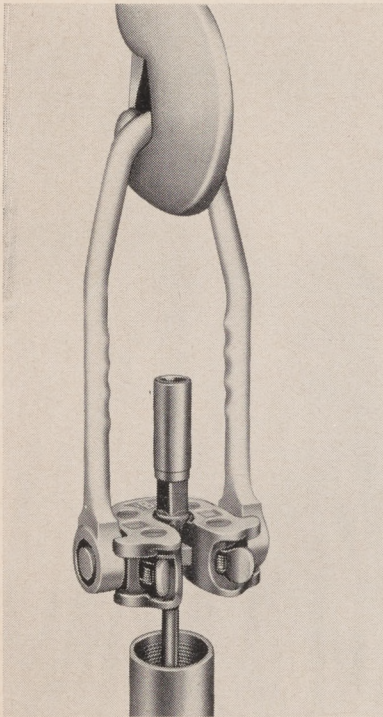
fuel cell, now well on its way toward limited commercial application.

The Atomic Energy Commission purchased about \$2.5-billion worth of uranium concentrates from private sources in the 12 years prior to July 1959. AEC estimates that purchases of  $U_3O_8$  during the next several years will be in excess of \$500-million annually.

Any kind and amount of pay is "incentive pay," if the person who receives needs it to live on—provided, of course, that he has an incentive to live.



## NO-KINK ELEVATOR Unveiled By BJ Tools



A new Rod Elevator—above—that will not bend or kink sucker rods even under the heaviest loads has just been placed on the market by Byron Jackson Tools, Inc., according to an announcement by Robert Harcus, Vice President and General Manager of the Borg-Warner subsidiary.

While retaining the proved arrangement of a reversible U-shaped body pivoted in the elevator bail, the new body design

of the BJ Elevator employs stops which prevent rotation about the trunnion under load. The entire string is always freely supported in the body seat in line with the lifting load so that *there is no possibility* of kinking rods even under the heaviest loads.

The bail, which is freely pivoted, swings out of the way or stops upright to receive the hook. The reversible type body has rod seats at the top and bottom, thus doubling the service life. There is no danger of dropping the string with the No-Kink Elevator, since the front latches must be opened by the operator before the rod can be released. Movement of the sucker rod against the front latches only closes them securely.

The solid, one-piece body is designed to fit the taper of all makes of rods. The alloy steel body, forged-steel bail and latches are all heat-treated for maximum strength and wearing qualities. The No-Kink Elevator operates reliably with any make of hook.

This new BJ elevator is available in a *Light Type* for strings of average length and a *Heavy Type* for longer strings of rods. Both *Light* and *Heavy Type* elevators are made in 5/8"–3/4", 3/4"–7/8" combinations. The *Light Type* is also available in a 1/2" size; the *Heavy Type* Rod Elevator in a 1" size.

## Economy of Energy

### A Basic Foundation to Accomplishment



Ted R. Arthur

Are you experiencing difficulty in working through the day's assignments by encountering resistance such as nervous tension, frustration and excessive fatigue? If so, a conscientious and continuous application of the program outlined in the following paragraphs perhaps may be just the tonic you need.

1. Proper organization of thought and action are essential. The few minutes spent analyzing a problem to permit the proper arrangement of ideas and sequence of activity, necessary to a successful solution, require far less energy than moving ahead unprepared. This can result only in confusion, indecision and waste of valuable time.

2. Do only those things which your position requires. This does not mean to stop helping others or being as cooperative as you can to those who work with and for you. For example, is your

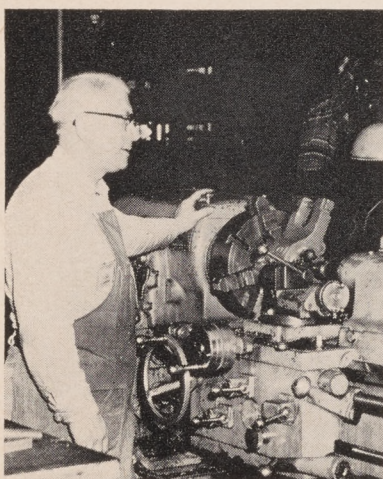
secretary handling all of the items her experience and capabilities will permit? Be sure you save your energy for the major problems.

3. Learn to enjoy your work. Learn to avoid anger and loss of temper. A mind trained to develop prompt and accurate solutions not only saves energy but definitely tends to avoid antagonism. "Why?", you ask. Because anyone so trained knows that anger, discontent and frustration must necessarily be eliminated before clear and constructive thinking is possible.

4. Do not, however, conserve your *physical* energy to the point of loafing or becoming lazy. Don't become a swivel chair jockey, physically chained to your desk. Don't send everything to other departments through the medium of your outgoing mail basket or through your secretary. Rather, occasionally make a personal delivery of some important item to other areas. True, this requires certain physical exertion, but the few minutes' relaxation you experience will restore vital mental energy. Anyway, a certain amount of exercise is necessary for good health.

5. In summary, the more we develop ourselves to secure the maximum of results with a minimum of effort, the closer we are to the ultimate of energy conservation, through the process of economy, precision and effectiveness of action.

## Plant One Personalities



Modesto Guglielmi

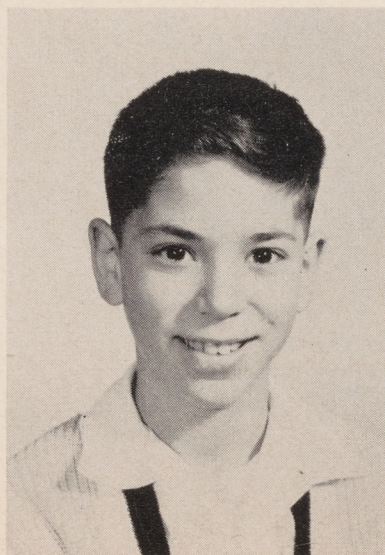
Modesto Guglielmi, above, Plant One Engine Lathe Operator, born in Rome, Italy, is going on his third year with BJ.

Modesto has a smile for everyone and a very fine sense of

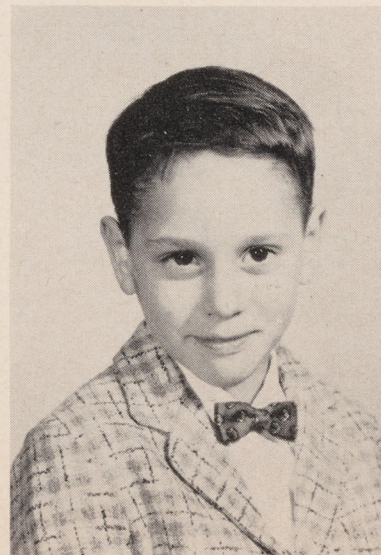
humor, which he says comes from his *glass of wine with a raw egg* every morning before

breakfast.

His hobbies include flowers and we have heard he has some very fine specimens. We *know* he



Joe Guglielmi



Tommy Guglielmi

has some very fine grandchildren, as you can see from the two we show on this page. Besides Tommy and Joe Guglielmi he has three more, Danny and Diane Polompo, and Angela Guglielmi, and if you ever have *three or four spare hours* Modesto will tell you *all about them!*

We are all happy to have you with us Modesto, hope you are with BJ for many more years.

As distressingly high as the divorce rate is, it would doubtless be much higher if it were as easy to secure a divorce as it is to marry.

\* \* \*

"To cure a cold, eat large quantities of onions," advises a health cultist. Following this advice would at least discourage the extent to which the contagion would be spread.



## COLORADO RIVER

(Continued from Page 4)

### *Hoover Dam Controls River*

Exhaustive studies were made by the U. S. Bureau of Reclamation, and in 1921 the Boulder Canyon Project Bill was first introduced in Congress. It was finally enacted into law in 1928 and provided for construction of what is today Hoover Dam and power plant, and the All-American Canal in Imperial Valley in California. Hoover Dam is a multiple-purpose dam. It regulates the flood waters of the Colorado River, conserves this water for irrigation and domestic use, and produces a large block of hydroelectric energy.

Hoover Dam, standing 727 feet high, has created Lake Mead, largest reservoir in the United States, with a usable storage capacity of 27,000,000 acre-feet. Including the power plant, its estimated total cost is \$173,000,000. It blocks a deep canyon section of the river where it forms the boundary between Arizona and Nevada.

### *Hoover Dam Pays Its Own Way in Full*

*Hoover Dam differs in one important respect from any other river development project in the United States. It was not built at the expense or risk of the general taxpayers of the country.*

Congressional legislation authorizing Hoover Dam provided that before it could be erected, the Secretary of the Interior must obtain firm contracts for the sale of Hoover Dam power sufficient to repay construction costs, plus interest, within 50 years. California communities and private power companies signed such contracts and agreed to pay, and are paying for fixed quantities of power.

### *How M. W. D. Operates*

The need for the vital substances to sustain human life in Southern California has been enormously increased in the last half century by the greatest migration of people in modern times. Since the populated areas of this section of the country are located in an arid region, one of the most pressing requirements has been that of obtaining sufficient water supplies to meet ever-increasing demands.

The Metropolitan Water District of Southern California is a political subdivision of the State of California. It was organized in 1928. Its primary task at that time was the planning, building, and financing of an adequate system to deliver water from the Colorado River to the cities and areas of the District located on the coastal plain of Southern California. As Southern California enters the sixth decade of the 20th Century, The Metropolitan Water District looks forward to the development of new water supplies from Northern California.

### *Selecting the Best Aqueduct Route*

The first problem in the planning of the aqueduct was the selection of a route for the giant water line. Factors influencing such a selection were variable and their economic effects could be determined only by long and careful study. There was no general location so outstanding that it could at once be selected as best. Much of the area was unsurveyed, consequently the first major task was the contour mapping of approximately 25,000 square miles of desert. This, in itself, was a major undertaking. The area was rugged and barren. When the first survey work was begun in late 1923 the few existing roads were little more than sandy wagon trails, practically impassable by motor vehicles. Large areas were without any means of access whatever and the surveyors had to build trails as they progressed.

### *Parker Dam—A Key Structure*

Any permanent diversion downstream from Hoover Dam involved some kind of structure across the river and some means for the removal of silt picked up by the flowing water after discharge from Lake Mead. Clarification by mechanical means was possible but a large-capacity reservoir was considered more desirable. Sites for a dam with appreciable reservoir space behind it were limited.

A diversion from a reservoir with high water level of 450 feet above sea level to be created by a dam about 16 miles upstream from Parker, Arizona, was selected. Parker Dam was built and is owned by the Federal Government. It forms the reservoir (Lake Havasu) on which is situated the Intake of The Metropolitan Water District Aqueduct. It helps to regulate the river flow below Hoover Dam for the benefit of Arizona and the entire lower river system. However, its cost (about \$13,000,000) was met with funds supplied by The Metropolitan Water District of Southern California.

### *Best Route Selected*

The so-called Parker Route for the Colorado River Aqueduct was found to be the safest, most practical and the most economical of the scores of routes projected and studied. The aqueduct, built along these lines, has a total pump lift of 1617 feet, follows a safe and convenient route, enters the coastal plain through the 13-mile San Jacinto tunnel, and delivers water into the Lake Mathews reservoir at a hydraulic grade of 1,407 feet above sea level.

The engineering work involved in the planning of the aqueduct was carried forward under the direction of the late Frank E. Weymouth, who was the first General Manager and Chief Engineer of the Metropolitan Water District. In 1929 Mr. Weymouth brought with him into the engineering organization of the District several engineers whose abilities were nationally recognized in the fields of designing, construction and aqueduct location work. Two of these men were Julian Hinds and Robert B. Diemer. Mr. Hinds in August, 1941 succeeded Mr. Weymouth as General Manager and Chief Engineer. Mr. Diemer has been General Manager and Chief Engineer of the District since 1952.

In 1931 the District engineering staff was prepared to make its final selection of the safest and most practicable route for the main aqueduct. However, before the final selection was made by the District's Board of Directors, a Board of Review, consisting of three distinguished engineers, was retained to check the findings of the District's engineering staff and make such recommendations as it desired. Serving on this board were Thaddeus Merriman, A. J. Wiley, and Dr. Richard R. Lyman.

The District's engineering staff had recommended the selection of the so-called Parker Route for the aqueduct, and this selection was approved by the engineering Board of Review.

Estimates of the cost of constructing the aqueduct in its first development indicated that an investment of approximately \$220 million would be required. In September of 1931 a bond issue of \$220 million was submitted by the Board to the thirteen states which then made up The Metropolitan Water District. It was the largest bond issue theretofore ever submitted to a popular vote. It was approved by the decisive ratio of nearly 5 to 1.

### *Building the Aqueduct*

Actual construction work on the aqueduct was set under way in December 1932 after court litigation had cleared the way for the selling of the bonds and the financing of the aqueduct program. Construction work went forward three shifts a day, seven days a week. With the exception of 33 miles of Coachella tunnels and connecting structures, all of the aqueduct construction schedules were submitted for competitive bids and the work was invariably awarded to the lowest responsible bidder. In addition to the Coachella tunnels located north of Indio, the District also found it necessary to take over the driving of the 13-mile tunnel under Mt. San Jacinto.

The practice of having aqueduct construction work go forward by competent contracting firms and also by District forces resulted in a healthy spirit of competition.

The aqueduct was completed in its initial development in June 1941. It turned out that the actual construction cost was about 20 per cent less than the original overall estimate. Up to date, the Colorado River Aqueduct represents a capital investment of \$380,000,000. The ultimate cost will probably be about \$500 million. At this point it should be emphasized that the cost of building and operating the Colorado River Aqueduct is being borne entirely by the people served and benefited in The Metropolitan Water District. There is no Federal subsidy, so far as the Colorado River Aqueduct project is concerned. Taking into account the greatly increased cost of labor and materials it is conservatively estimated that the Colorado River Aqueduct represents a present day cost of about \$1 billion.

### *Water Needs Increase*

When the Colorado River Aqueduct was placed in operation in 1941, it brought a new life-giving water supply to the Coastal Plain of Southern California just in time to meet the sudden demands for water by giant war industries and military and naval installations. These needs and the peace time population growth of District areas in the early 1940's could be satisfied by an aqueduct constructed in some of its parts only to about one-half its ultimate capacity. When the Aqueduct was built in its first development in 1932-41 all tunnel, covered conduit and canal sections and some of its siphon sections were built to full capacity. Other features, including its pumping plants and most of its siphons on the Main Aqueduct were built only to one-third or one-half their ultimate size.

W.H. Z. 0139



for domestic, industrial and municipal water, The Metropolitan Water District of Southern California will be prepared to deliver such supplies.

"Taxpayers and water users residing within The Metropolitan Water District of Southern California already have obligated themselves for the construction of an adequate supply and distribution system. . . . This system has been designed and constructed in a manner that permits orderly and economic extensions and enlargements to deliver the District's full share of Colorado River water as well as water from other sources as required in the years ahead. Establishment of overlapping and paralleling governmental authorities and water distribution facilities to service Southern California areas would place a wasteful and unnecessary burden upon all of the people of California, particularly the residents of Southern California."

This policy was reviewed and reaffirmed as recently as October, 1959.

The Metropolitan Water District of Southern California by its policy as stated above accepts the responsibility for the distribution of imported waters to its constituent areas. Officers of the District also feel the responsibility of insisting that water from the Feather River, or any other source, be delivered to Southern California in the most practicable and economical manner possible.

The Board of Directors and the management of the Metropolitan Water District are strongly in favor of the proper and equitable development of surplus water resources in the northern part of the State for use in the heavy population centers in Southern California which in the years ahead will vitally need additional imported water. Directors and officers of the District seek to have the District join forces with all other parts of California in the establishment of a program and policy that will bring about the development of Northern California water in a manner fair and beneficial to all the people—North and South.

SINCE **BJ** 1872

## BYRON JACKSON

DIVISION OF BORG-WARNER CORPORATION

Mailing Address: P. O. BOX 2017, TERMINAL ANNEX, LOS ANGELES 54, CALIFORNIA, U. S. A.

Executive Offices: 2301 E. VERNON AVE., VERNON, CALIFORNIA

Telephone: LUDlow 7-6171 Cable Address: "BYJAC" All Codes

Inspector of Naval Material  
Los Angeles District  
929 South Broadway  
Los Angeles 15, California

Subject: Mr. Willis Winter

Gentlemen:

We have recently been informed that Mr. Willis Winter, who has represented your agency in our plant for a number of years, is being transferred to a new assignment.

We feel we would be extremely remiss if we did not take this opportunity to tell you how very much we appreciate the work Mr. Winter has done in our organization and the pleasure we have had in our association with him.

The maintenance of high quality standards in an organization doing the type of work we furnish is always a problem. Mr. Winter's gentle but absolutely firm insistence upon rigid adherence to specifications has been a fine example to all of us. We feel that it has lifted the quality standards of not only U. S. Navy work, but all our production to a new high that would have never been attained without his efforts. The fine example he set cannot help but be an inspiration to every one in our organization.

Our best wishes go with him to his new assignment. We understand this is a promotion we know he richly deserves. With such men in your inspection operation the ultimate recipient of our product may rest assured that every precaution possible has been observed in the manufacture. This is a comforting thought to all of us.

Yours very truly,

*J. C. Buchanan*  
J. C. Buchanan, Manager  
Quality Control

JCB:acb

### California Tops Yield in Cotton

The largest yields of cotton per acre in 1959 were recorded in the states where the fiber is grown on irrigated lands, the Agriculture Dept. reports. California had the highest yield, 1,051 bales per acre, followed by Arizona with .893 bales and New Mexico with .782 bales. The yield per acre for the United States was .462 bales per acre.

Texas, with its great land bulk, was the largest cotton producer in 1959.

### Congratulations—



Irene Blaisdell, 15 years



# BETTER LIVING

## BY BORG-WARNER

A report on the far-reaching ways  
in which a dynamic corporation helps  
enrich the lives of millions

The modern refrigerator has made a museum piece out of the old-fashioned icebox. Heating a home once involved manual labor, now requires only the touch of a thermostat. Gone are legs on bathtubs. Hand fans of yesteryear have given way to the fingertip-controlled air conditioner. And down are many clotheslines—replaced by automatic dryers.

Who wrought the revolution? The divisions and subsidiary companies of Borg-Warner Corporation helped importantly by developing new and better home equipment.

The Norge refrigerator was first with adjustable swing-out shelves—first with an automatic ice cube maker, in both gas and electric models. The first successful home air conditioner went down in history with the York name on it (1935)—leadership evident today in York's new Heat Pump that warms and cools by using only outside air and electricity. The three newest ideas in residential plumbing fixtures are all products of the Ingersoll-Humphries Division. The original multiple-layer aluminum foil insulation is Alfol, and the original solar screening is KoolShade—both products of Reflectal Corporation, a B-W subsidiary.

Rest on laurels? Never. At the Roy C. Ingersoll Research Center in suburban Chicago, Borg-Warner is forever designing, testing, analyzing—creating equipment destined for homes of the future.



The 7 Hats of Borg-Warner... (top) national defense; oil, steel and chemicals; (middle row) agriculture, industrial machinery; aviation; (bottom) the automotive industry; home equipment.

## BORG-WARNER

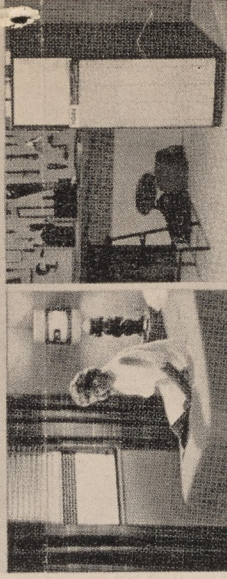
It's a better product when Borg-Warner makes it

Borg-Warner Corporation • 200 South Michigan Avenue • Chicago 4, Illinois

This Four Color Advertisement Appears in Life—May 9, 1960; Time—May 9, 1960; Fortune—June, 1960; Scientific American—June, 1960; Electrical Merchandising Week—May 9, 1960; Appliance Manufacturer—May, 1960; House & Home—May, 1960. Also Appears in Black and White in Home Furnishings Daily

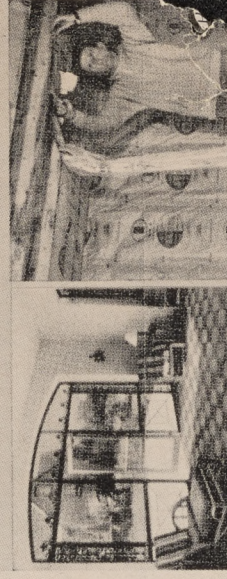


**A SINGLE OPERATION** washes, rinses, fluff-dries in Norge's gas or electric Washer-Dryer Combination (also washes or dries separately). One setting washes synthetics safely; another gets denims perfectly clean.



**COLOR MAGNIFICENCE** is yours in B-W's Ingersoll-Humphries cast iron, steel and china residential plumbing fixtures. Available in six pastels, including three 1960 House & Garden Magazine selections, plus white.

**LIFT FOR LIFE.** York Comfort Center heats and humidifies in winter, cools and dehumidifies in summer—purifying air electronically. Two fans of gas-fired furnace heat use more fuel than one—yet do not use more fuel.



**SUMMER COMFORT:** KoolShade sunscreens by B-W's Reflectal Corporation block sun's hottest rays (note contrast where rays hit). KoolShade's 15° cooler—reflects winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**BUILDING OR REMODELING?** Reflectal's Alfol Aluminum Foil Insulation is a multiple-layer aluminum foil that reflects summer heat out, winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

### WHAT BORG-WARNER MEANS TO

Many Borg-Warner products contribute essentially to your life. The preservation and preparation of food, for example. Or the measurably to comfort and security, like heating and cooling a home. Still others, such as automatic washers and dryers, are makers for more happy moments. Being an air of security, an air of the "by-products" of production.



**SUMMER COMFORT:** KoolShade sunscreens by B-W's Reflectal Corporation block sun's hottest rays (note contrast where rays hit). KoolShade's 15° cooler—reflects winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**BUILDING OR REMODELING?** Reflectal's Alfol Aluminum Foil Insulation is a multiple-layer aluminum foil that reflects summer heat out, winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**WHAT BORG-WARNER MEANS TO**

Many Borg-Warner products contribute essentially to your life. The preservation and preparation of food, for example. Or the measurably to comfort and security, like heating and cooling a home. Still others, such as automatic washers and dryers, are makers for more happy moments. Being an air of security, an air of the "by-products" of production.

**SUMMER COMFORT:** KoolShade sunscreens by B-W's Reflectal Corporation block sun's hottest rays (note contrast where rays hit). KoolShade's 15° cooler—reflects winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**BUILDING OR REMODELING?** Reflectal's Alfol Aluminum Foil Insulation is a multiple-layer aluminum foil that reflects summer heat out, winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**WHAT BORG-WARNER MEANS TO**

Many Borg-Warner products contribute essentially to your life. The preservation and preparation of food, for example. Or the measurably to comfort and security, like heating and cooling a home. Still others, such as automatic washers and dryers, are makers for more happy moments. Being an air of security, an air of the "by-products" of production.

**SUMMER COMFORT:** KoolShade sunscreens by B-W's Reflectal Corporation block sun's hottest rays (note contrast where rays hit). KoolShade's 15° cooler—reflects winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**BUILDING OR REMODELING?** Reflectal's Alfol Aluminum Foil Insulation is a multiple-layer aluminum foil that reflects summer heat out, winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**WHAT BORG-WARNER MEANS TO**

Many Borg-Warner products contribute essentially to your life. The preservation and preparation of food, for example. Or the measurably to comfort and security, like heating and cooling a home. Still others, such as automatic washers and dryers, are makers for more happy moments. Being an air of security, an air of the "by-products" of production.

**SUMMER COMFORT:** KoolShade sunscreens by B-W's Reflectal Corporation block sun's hottest rays (note contrast where rays hit). KoolShade's 15° cooler—reflects winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**BUILDING OR REMODELING?** Reflectal's Alfol Aluminum Foil Insulation is a multiple-layer aluminum foil that reflects summer heat out, winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**WHAT BORG-WARNER MEANS TO**

Many Borg-Warner products contribute essentially to your life. The preservation and preparation of food, for example. Or the measurably to comfort and security, like heating and cooling a home. Still others, such as automatic washers and dryers, are makers for more happy moments. Being an air of security, an air of the "by-products" of production.

**SUMMER COMFORT:** KoolShade sunscreens by B-W's Reflectal Corporation block sun's hottest rays (note contrast where rays hit). KoolShade's 15° cooler—reflects winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**BUILDING OR REMODELING?** Reflectal's Alfol Aluminum Foil Insulation is a multiple-layer aluminum foil that reflects summer heat out, winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**WHAT BORG-WARNER MEANS TO**

Many Borg-Warner products contribute essentially to your life. The preservation and preparation of food, for example. Or the measurably to comfort and security, like heating and cooling a home. Still others, such as automatic washers and dryers, are makers for more happy moments. Being an air of security, an air of the "by-products" of production.

**SUMMER COMFORT:** KoolShade sunscreens by B-W's Reflectal Corporation block sun's hottest rays (note contrast where rays hit). KoolShade's 15° cooler—reflects winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**BUILDING OR REMODELING?** Reflectal's Alfol Aluminum Foil Insulation is a multiple-layer aluminum foil that reflects summer heat out, winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**WHAT BORG-WARNER MEANS TO**

Many Borg-Warner products contribute essentially to your life. The preservation and preparation of food, for example. Or the measurably to comfort and security, like heating and cooling a home. Still others, such as automatic washers and dryers, are makers for more happy moments. Being an air of security, an air of the "by-products" of production.

**SUMMER COMFORT:** KoolShade sunscreens by B-W's Reflectal Corporation block sun's hottest rays (note contrast where rays hit). KoolShade's 15° cooler—reflects winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**BUILDING OR REMODELING?** Reflectal's Alfol Aluminum Foil Insulation is a multiple-layer aluminum foil that reflects summer heat out, winter heat in, cuts fuel bills as much as principal cities, which finances appliance purchases to suit your needs.

**WHAT BORG-WARNER MEANS TO**